LELAND STANFORD JUNIOR UNIVERSITY

REGISTER FOR 1914-15

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LELAND STANFORD JUNIOR UNIVERSITY

TWENTY-FOURTH ANNUAL REGISTER

1914-15

"The beneficence of the Creator towards man on earth, and the possibilities of humanity, are one and the same."—LELAND STANFORD.

"A generous education is the birthright of every man and woman in America."
—DAVID STARR JORDAN

STANFORD UNIVERSITY, CALIFORNIA
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FEBRUARY, 1915

STANFORD UNIVERSITY
PRESS

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OFFICE DIRECTORY

[The rooms in the Inner Quadrangle are numbered consecutively, beginning at the left of the main entrance, ten numbers being allotted to each building. In the Outer Quadrangle forty numbers are allotted to each of the larger buildings and ten numbers to each one-story building, beginning with the Assembly Hall and number 120. The Engineering buildings south of the Quadrangles begin with number 500. The Chemistry building is on the west avenue between the Quadrangles and the Museum. Anatomy and Bacteriology and Immunity are in the Museum building.]

The office of the President is room 112.

The office of the Registrar is room 116.

The office of the Academic Secretary is room 113.

The office of the Appointment Secretary is room 118.

The office of the Medical Adviser to Women is room 94.

The office of the Dean of Women is room 203.

The office of the Student Adviser is room 265.

The office of the Treasurer is room 250.

The office of the Committee on Public Health is room 94.

The various Departmental offices are given in the Schedule and in the Directory of Officers and Students.

The University Post and Telephone Office is *Stanford University, California.*

The University Railway Station and Telegraph and Express Office is *Palo Alto, California.*

Requests for *Registers,* blanks and other printed matter, and inquiries regarding terms of admission, advanced standing, etc., should be addressed to The Registrar, *Stanford University, California.*

UNIVERSITY CALENDAR

1914

Aug.	31	Monday	Registration of Students.
Sept.	2	Wednesday	
Sept.	3	Thursday	Instruction begins in all Departments of the University.
Nov.	26	Thursday	Thanksgiving Recess.
Nov.	29	Sunday	
Dec.	12-18	Saturday-Friday	End-Semester Examinations at Stanford University.
Dec.	18	Friday	Work closes in the Department of Medicine in San Francisco.

1915

Jan.	4-5	Monday-Tuesday	Registration of Students.
Jan.	6	Wednesday	Instruction begins in all Departments of the University.
Feb.	22	Monday	Washington's Birthday.
March	9	Tuesday	Founders' Day.
March	27	Saturday	Mid-Semester Recess.
April	4	Sunday	
May	6-12	Thursday-Wednesday	End-Semester Examinations at the University.
May	12	Wednesday	Work closes in the School of Medicine in San Francisco.
May	14	Friday	Birthday of Leland Stanford, Junior.
May	16	Sunday	Baccalaureate Sunday.
May	17	Monday	Commencement.

Aug.	30	Monday	Registration of Graduate Students.
Aug.	31	Tuesday	Registration of Undergraduates.
Sept.	1	Wednesday	
Sept.	2	Thursday	Instruction begins.
Dec.	11-17	Saturday-Friday	End-Semester Examinations.

ADMINISTRATIVE OFFICERS

THE BOARD OF TRUSTEES

[The figures in parentheses indicate year of beginning of service.]

FRANK BARTOW ANDERSON (1912), California and Sansome, San Francisco
RALPH ARNOLD, Ph. D. (1915), 1205 Wilson ave., South Pasadena
WILLIAM BABCOCK (1905), San Rafael
HORACE DAVIS, LL. D. (1885), 1800 Broadway, San Francisco
CHARLES PARMELEE EELLS, A. B. (1905), 2415 Pierce st., San Francisco
JOSEPH DONOHOE GRANT, A. B. (1891), 2200 Broadway, San Francisco
HERBERT CLARK HOOVER, A. B. (1912), 604 Mills Bldg., San Francisco
TIMOTHY HOPKINS (1885), (Nevada Bank Bldg., S. F.), Menlo Park
SAMUEL FRANKLIN LEIB, LL. B. (1891), First Ntl. Bank Bldg., San Jose
FRANK MILLER (1893), 28 Hillcrest rd., Berkeley
WILLIAM MAYO NEWHALL, B. S. (1912), 260 Calif. st., San Francisco
JAMES LEROY NICKEL (1909), Merchants Exchange Bldg., San Francisco
LEON SLOSS (1891), 310 Sansome st., San Francisco
THOMAS WELTON STANFORD (1893), 142 Russell st., Melbourne, Aus.
VANDERLYNN STOW, A. B. (1906), 2900 Broadway, San Francisco

OFFICERS OF THE BOARD

President: WILLIAM MAYO NEWHALL.
Vice-President: CHARLES PARMELEE EELLS.
Treasurer and Business Manager: VANDERLYNN STOW.
Secretary: LEON SLOSS.

STANDING COMMITTEES OF THE BOARD

Finance: SLOSS, ANDERSON, BABCOCK, LEIB, MILLER, NEWHALL, NICKEL, STOW.
University: HOPKINS, DAVIS, EELLS, GRANT, HOOVER, NEWHALL, STANFORD, STOW.
Library: EELLS, DAVIS, HOPKINS, STOW, NEWHALL.
Rules: DAVIS, EELLS, HOOVER, NEWHALL, SLOSS.
Museum: STOW, BABCOCK, LEIB.
Ranch: NEWHALL, NICKEL, STOW.
Grounds: NEWHALL, SLOSS, STOW.
Memorial Church: MILLER, LEIB, STOW.

THE FACULTY

[Office and office hours in parentheses; MTWThF unless otherwise specified.]

Chancellor: David Starr Jordan. (425, 3-5.)
President: John Casper Branner. (332, 10-12; 111, 3-5.)
Vice-President: John Maxson Stillman. (44c, 2-4:30.)
Registrar: Orrin Leslie Elliott. (117, 8:15-12:15, 1:30-4:30, S 9-12.)
Librarian: George Thomas Clark. (Library, 8:30-12:15, 1:30-4:30)
Academic Secretary: George Archibald Clark. (112, 8:30-12, 2:30-5.)
Dean of Women: Evelyn Wight Allan. (203, MTWThF 10:15-12:15, Th 3-6 at 31 Salvatierra.)
Student Adviser: Stanley Stoddard Simonson. (265, 10:15, 1:30-3.)
Chaplain: David Charles Gardner. (Vestry, TWThF 9-12.)
Appointment Secretary: Susan Brown Bristol. (118, 9-12, 1:30-4:30, S 9-12.)
Medical Adviser for Women: Clelia Duel Mosher. (94, MWTF 1-2, T 1-1:30.)
Medical Adviser for Men: Herbert Rowell Stolz. (Encina Gymnasium, MTThF 9:30-12.)

DEPARTMENT EXECUTIVES

[Office in parentheses.]

Anatomy: Arthur William Meyer. (7m.)
Applied Mathematics: Leander Miller Hoskins. (275.)
Bacteriology and Immunity: Wilfred Hamilton Manwaring. (15m.)
Botany: Douglas Houghton Campbell. (468.)
Chemistry: John Maxson Stillman. (44c.)
Civil Engineering: Charles David Marx. (271.)
Economics: Murray Shipley Wildman. (223.)
Education: Ellwood Patterson Cubberley. (51.)
Electrical Engineering: Harris Joseph Ryan. (505.)
English Literature and Rhetoric: William Herbert Carruth. (209.)
English Philology: *Ewald Flügel. (212.)
Entomology and Bionomics: Vernon Lyman Kellogg. (431.)
Geology and Mining: John Casper Branner. (332.)
Germanic Languages: James Owen Griffin. (35.)
Greek: Augustus Taber Murray. (25.)
History: Ephraim Douglass Adams. (237.)

*Deceased, November 14, 1914.

Latin: Henry Rushton Fairclough. (22.)
Law: Frederic Campbell Woodward. (3.)
Mathematics: Robert Edgar Allardice. (70.)
Mechanical Engineering: William Frederick Durand. (260.)
Medicine: Ray Lyman Wilbur. (San Francisco.)
Anatomy: Arthur William Meyer. (7m.)
Bacteriology and Immunity: Wilfred Hamilton Manwaring. (15m.)
Chemistry: John Maxson Stillman. (44c.)
Hygiene and Public Health: William Freeman Snow. (New York, N. Y.)
Medicine: Ray Lyman Wilbur. (San Francisco.)
Obstetrics and Gynecology: Alfred Baker Spalding. (San Francisco.)
Pathology: William Ophüls. (San Francisco.)
Pharmacology: Albert Cornelius Crawford. (San Francisco.)
Physiology and Histology: Oliver Peebles Jenkins. (482.)
Surgery: Stanley Stillman. (San Francisco.)
Philosophy: Henry Waldgrave Stuart. (40.)
Physics: Fernando Sanford. (390.)
Physiology and Histology: Oliver Peebles Jenkins. (482.)
Psychology: Frank Angell. (399.)
Romanic Languages: Oliver Martin Johnston. (242.)
Zoology: Charles Henry Gilbert. (443.)

STANDING COMMITTEES OF THE ACADEMIC COUNCIL

[The first named member in each Committee is Chairman.]

ADVISORY BOARD

HOSKINS, DURAND, FAIRCLOUGH, GILBERT, GREEN, KELLOGG, C. D. MARX, SANFORD (Secretary), WOODWARD.

ADMINISTRATIVE COMMITTEES

1. Student Affairs: WOODWARD, FOLSOM, HUSTON, TOWNLEY, WILDMAN.
2. Athletics: ANGELL, FOLSOM, J. P. SMITH, STOLZ, WING.
3. Public Exercises: TREAT, CARRUTH, GRAY, PEIRCE, SEWARD.
4. Literary Contests: BASSETT, ALDEN, FOSTER, CATHCART, ROBINSON.
5. Public Health: MITCHELL, MEYER, MOSHER, STOLTENBERG, STOLZ.
6. Delinquent Scholarship: GILBERT, ELLIOTT, HOSKINS, JOHNSTON, WHITAKER, WOODWARD.
7. Public Entertainments: S. W. YOUNG, ALDEN, C. D. MARX, G. H. MARX, PEIRCE.
8. Vocational Guidance: G. H. MARX, BROWN, HALL, HUSTON, WILDMAN.

ACADEMIC COMMITTEES

1. Executive Committee: BRANNER, STILLMAN, ALDEN, CATHCART, ELLIOTT, FOSTER, GREEN, HEATH, C. D. MARX, G. H. MARX, MEYER, SWAIN, WILDMAN.
2. Admission and Advanced Standing: ELLIOTT, BENTLEY, ECKART, SHOW, TOWNLEY.
3. Registration: ELLIOTT, DAVIDSON, RENDTORFF, PRICE, STOLTENBERG.
4. Graduation: WILDMAN, ELLIOTT, ABRAMS, JENKINS, KREHBIEL.
5. Schedule and Examinations: MURRAY, ELLIOTT, ELMORE, MCFARLAND, PONZER.
6. Graduate Study: FRANKLIN, ADAMS, ALDEN, DURAND, FAIRCLOUGH, HOSKINS, KELLOGG, MEYER (Secretary), PEIRCE, STILLMAN, STUART.
7. Library: STILLMAN, ADAMS, COOPER, DURAND, GILBERT.
8. University Publications: KELLOGG, ADAMS, G. T. CLARK, L. J. MARTIN, TOWNLEY.
9. Recommendation of Teachers: BENTLEY, COOPER, ELLIOTT, SHOW, TERMAN.

FACULTY AND OTHER OFFICERS

[Name; office; office hour; telephone; title; residence; post-office. Post-office in all cases *Stanford University* except where university residence is followed by initial letter of town ('p' indicates *Palo Alto* post-office; 'Mayfield-m,' *Mayfield* post-office; etc.). Street address *Palo Alto* or *Campus* unless otherwise named.

'Daily' does not include Saturday. Office hours are MTWThF unless otherwise noted. The asterisk indicates 'absent on leave for the year'; the dagger (†) marks the names of men who are married.

The superior number [1] indicates service for first semester only; [2] for second semester only.]

†ABRAMS, LEROY, (465, 9-12, 2-4) PA 1125
Associate Professor of Botany, 23 Salvatierra

A. B., Stanford, 1899, A. M., 1902; Ph. D., Columbia, 1910. Acting Professor of Botany, University of Idaho, 1899-1900; Assistant in Botany, Leland Stanford Junior University, 1900-02, Instructor, 1902-04; Fellow in Botany, Columbia University, 1904-05; Assistant Curator, Division of Plants, United States National Museum, 1905-06. At Stanford, 1900-04, and since 1906.

†ADAMS, EPHRAIM DOUGLASS, (237, TTh 11:15-11:45, W 2-2:30)
Professor of History, PA 1058, 9 Alvarado

A. B., Michigan, 1887, Ph. D., 1890. Principal of High School, McGregor (Ia.), 1887; Principal of High School, Saginaw (Mich.), 1889; Special Agent in Charge of Street Railways, Eleventh Census, Washington (D. C.), 1890; Assistant Professor and afterward Professor of European History, University of Kansas, 1891-1902; Instructor in History, University of California, Summer Session, 1910. At Stanford, since 1902.

†ADDIS, THOMAS, Sausalito 194
Associate Professor of Medicine, 21 Miller av., Sausalito-s

M. B. Ch. B., Edinburgh, 1905, M. D. and M. R. C. P., 1908. Clinical Assistant, Medical Out Patient Department, Royal Infirmary of Edinburgh, 1908, 1911; Medical Registrar, Leith Hospital, 1911; Carnegie Research Scholar and Fellow, 1908-11; Director of the Clinical Laboratory, Lane Hospital, since 1911. At Stanford, since 1911.

†ALDEN, RAYMOND MACDONALD, (209, MWF 10-10:15) PA 288
Professor of English, 427 Embarcadero road

A. B., Pennsylvania, 1894; A. M., Harvard, 1896; Ph. D., Pennsylvania, 1898. Instructor in English, Columbian University, 1894-95; Assistant in English, Harvard University, 1896-97; Senior Fellow in English, University of Pennsylvania, 1898-99, Instructor, 1899-1901; Assistant Professor of English Literature and Rhetoric, Leland Stanford Junior University, 1901-09, Associate Professor of English, 1909-11; Professor of English, University of Illinois, 1911-14. At Stanford, 1901-11 and since 1914.

†ALDERSON, HARRY EVERETT, SF, Park 461
Clinical Associate Professor of Medicine, 937 Ashbury, SF-sf

M. D., California, 1900; Assistant in Skin Diseases, Medical Department of University of California, 1906-12; Professor of Art Anatomy, California School of Design, 1906-12; Chief of Dermatological Clinic, San Francisco Fruit and Flower Mission. At Stanford, since 1912.

ALLAN, EVELYN WIGHT (Mrs.), (203, 10:15, 12:15, Th res., 3-6)
Dean of Women, PA 1056, 31 Salvatierra

B. S., St. Lawrence University, 1891; A. B., Stanford, 1896. Teacher in Montclair (N. J.), High School, 1892-95; Teacher of English, Jersey City High School, 1897-99; Graduate Student at Columbia University, 1907; Teacher of English, Manual Training High School, Brooklyn (N. Y.), 1899-1908. At Stanford, since 1908.

ALLARDICE, ROBERT EDGAR, (70, MWF 10:15-11:15) PA 1036
Professor of Mathematics, County Road

A. M., Edinburgh, 1882. Baxter Scholar in Mathematics, University of Edinburgh, 1882-83, Drummond Scholar in Mathematics, 1883-84; Assistant Professor of Mathematics, University of Edinburgh, 1883-92. At Stanford, since 1892.

†ALLEN, CLIFFORD GILMORE, (242, MWF 10:15, TTh 11:15) PA 1031X
Associate Professor of Romanic Languages, 22 Alvarado

A. B., Boston, 1900; A. M., Stanford, 1903; Docteur de l'Université de Paris, 1906. Student, University of Paris, 1903-04; Fellow of Boston University and Student at Universities of Paris and Madrid, 1904-05. At Stanford, since 1901.

[1]AMBROSE, ARTHUR WARREN, (265, 1-2)
Student Adviser, 2243 Steiner, SF-sf

A. B., Stanford, 1914.

†ANDERSON, MELVILLE BEST, PA 773
Professor of English Literature, Emeritus, Menlo Park-m

A. M., Butler University, 1877; LL. D., Aberdeen, 1906. Professor of Modern Languages, Butler University, 1877-80; Professor of English Literature, Knox College, 1881-86; Professor of Literature and History, Purdue University, 1886-87; Professor of the English Language and Literature, University of Iowa, 1887-91. At Stanford, since 1891, Emeritus since 1910.

†ANGELL, FRANK, (399, TTh 2-3) PA 87
Professor of Psychology, 1200 Bryant

B. S., Vermont, 1878; Ph. D., Leipzig, 1891; L. H. D., Vermont, 1892. Teacher in Washington (D. C.) High School, 1880-87; Assistant Professor of Psychology, Cornell University, 1891-92. At Stanford, since 1892.

†BAILEY, CHARLES HARVEY,
Instructor in Pathology, 2776 Jackson, SF-sf

†BARKAN, ADOLPH,
Professor of Structure and Diseases of Eye, Ear, and Larynx, Emeritus, 135 Stockton, SF-sf

M. D., University of Vienna, 1866; LL. D., University of Glasgow, 1901. Professor of Ophthalmology and Otology, Medical Department, University of the Pacific, 1872-82, Cooper Medical College, 1882-1912; Eye and Ear Surgeon, Lane Hospital, 1895-1912. At Stanford, since 1909, Emeritus since 1911.

†Bassett, Lee Emerson, (212, MW 10:15, TTh 3:30) PA 1080
Associate Professor of English, 9 Cabrillo

A. B., Stanford, 1901. Graduate, Cumnock School of Oratory, Los Angeles, 1898; Instructor in Public Speaking, University of Southern California, 1898-99; Student, School of Expression, Boston, 1901; Student, Department of Literature, University of Chicago, summer, 1904; Student at Oxford, 1907-08. At Stanford, since 1901.

†Beal, Carl Hugh, (339, 8-12, 1:30-5)
Curator, Geology Museum, 243 Byron-p

†Bentley, Rufus Clarence, (52, 9:15) PA 1061X
Associate Professor of Education, 12 Alvarado

A. B., Nebraska, 1894, A. M., 1896. Assistant in Psychology, University of Nebraska, 1893-96; Principal of Schools, Shelton (Neb.), 1896-97; Principal of High School, Martinez (Cal.), 1897-98; Principal of High School and Supervising Principal of Schools, San Rafael (Cal.), 1898-1900; Fellow, Columbia University, 1900-01; Fellow, Clark University, 1901-03; Dean of Clark College, 1902-09, Professor of Latin, 1902-04, Professor of Pedagogy, 1904-09. At Stanford, since 1910.

Berger, Alice Ruth, (24c, 2-4)
Instructor in Chemistry, 73 No. 6th, SJ

A. B., Stanford, 1908, A. M., 1913. At Stanford, since 1911.

†Bingham, Joseph Walter, (4, MWF 11:15-12:15) PA 754K
Professor of Law, 1001 Cowper-p

A. B., Chicago, 1902, J. D., 1904. In practice of law, Chicago, 1904-05; Acting Assistant Professor of Law, Cornell University, 1905-07. At Stanford, since 1907.

†Blaisdell, Frank Ellsworth, SF, Pacific 3482
Assistant Professor of Surgery, 1520 Lake, SF-sf

M. D., Cooper Medical College, 1889. Demonstrator of Anatomy, Cooper Medical College, 1903, Instructor in Biology and Embryology, 1900-09, in Histology, 1907-09, Assistant Professor of Anatomy, 1904-05, Associate Professor, 1907-12. At Stanford, since 1910.

Blichfeldt, Hans Frederick, (74, TTh 11:15-12:15) PA 435
Professor of Mathematics, College Terrace

A. B., Stanford, 1896; Ph. D., Leipzig, 1898. At Stanford, since 1898.

Boardman, Walter Whitney, (Lane Hosp., 9-4) SF, Fillmore 2192
Assistant Professor of Medicine, 2200 Webster, SF-sf

M. D., Cooper Medical College, 1909. Assistant in Phipps Dispensary, Johns Hopkins Hospital, 1910, Assistant in Actinography and Externe in Gynecology, 1911; Director of Actinography, Lane Hospital, 1912. At Stanford, since 1912.

†Boezinger, Bruno, (34) PA 196
Assistant Professor of German, 176 Bryant-p

A. B., Forth Worth University, 1894, A. M., 1895; Ph. D., Stanford, 1910. Instructor in German, North Texas Normal School, 1895-98; Principal, German Department, San Antonio (Texas) H. S., 1899-1906; Instructor in German, Summer School, University of Texas, 1896. At Stanford, since 1906.

BOEZINGER, LYDIA MARIE, Fillmore 3730
Secretary to the Dean of Medical School, 936 Divisadero, SF-sf

†BOHART, GEORGE SHAMBAUGH, (5c, MTThF 1:30-4:30) PA 717X
Instructor in Chemistry, 856 Middlefield-p
A. B., Stanford, 1911, A. M., 1912, Ph. D., 1914. At Stanford, since 1911.

†BRANNER, JOHN CASPER, (332, 10-12; 111, 3-5) PA 1010
President, and Professor of Geology, 13 Alvarado

B. S., Cornell, 1882; Ph. D., Indiana, 1885; LL. D., Arkansas, 1897, Maryville College, 1909. Assistant Geologist, Imperial Geological Survey of Brazil, 1875-78; Special Botanist in South America, 1880-81; Special Agent of the U. S. Department of Agriculture for Investigating Cotton and the Insects affecting it in Brazil, 1882-83; Topographical Geologist of the Geological Survey of Pennsylvania, Anthracite District, 1883-85; Professor of Geology, Indiana University, 1885-91; State Geologist of Arkansas, 1887-92; President Geological Society of America, 1904; Member California Earthquake Investigation Commission, 1906-07; Special Assistant, Geological Survey of Brazil, 1907-08; Professor of Geology, Leland Stanford Junior University, since 1891, Vice-President, 1898-1913, President, since 1913. At Stanford, since 1891.

†BRASCH, FREDERICK E.,
Law Librarian, 911 Scott

†BRIGGS, WILLIAM DINSMORE, (207½) PA 406K
Assistant Professor of English, 360 Kingsley-p

A. B., Stanford, 1896; A. M., Harvard, 1899, Ph. D., 1900. Student, Johns Hopkins University, 1896-97; Instructor in English and German, University of Vermont, 1900-01; Instructor in English, Western Reserve University, 1901-06. At Stanford, since 1906.

BRINTON, MARGARET,
Cataloguer, Lane Medical Library, 1738 Pine st., SF-sf

BRISTOL, SUSAN BROWN, (118, 9-12, 1:30-4:30, S 9-12) PA 709X
Appointment Secretary, 1155 Ramona

A. B., Stanford, 1897. At Stanford, since 1900.

†BRODRICK, RICHARD G., SF, Fillmore 1895
Clinical Assistant Professor of Hygiene and Public Health, 1085 Mission, SF-sf

M. D., Cooper Medical College, 1892. Assistant Surgeon, U. S. Navy, 1893, Naval Medical School, New York, 1893-94, Asiatic Station, 1894-98; Past Assistant Surgeon, U. S. Navy, 1896, retired from active duty, 1899; Student, Vienna, 1899-1902; Health Officer, San Francisco, 1908-10, 1912; Executive Secretary, San Francisco Association for the Study and Prevention of Tuberculosis, 1910-11. At Stanford, since 1912.

[BROOKS, LUCIA MAY,
Chief of Serial Department, Library, Philippine Islands]

Cataloguer, University of Minnesota Library, 1905-09.

[†BROOKS, VAN WYCK,
Instructor in English, In Europe]

A. B., Harvard, 1907. At Stanford, since 1911.

†BROWN, HAROLD CHAPMAN, (45, MTF 9:15) PA 1006
Assistant Professor of Philosophy, 16 Salvatierra

A. B. Williams, 1901; A. M., Harvard, 1903, Ph. D., 1905; Student, University of Berlin, 1903-04; Assistant in Philosophy, Harvard University, 1904-06; Instructor in Philosophy, Columbia University, 1906-14. At Stanford, since 1914.

†BROWN, JOSEPH GRANT, (385) PA 267
Assistant Professor of Physics, 1013 Ramona-p

A. B., Stanford, 1901, A. M., 1903. Graduate, Illinois State Normal University, 1894, Instructor in Physics and Chemistry, 1894-98. At Stanford, since 1900.

BUCKINGHAM, ELISABETH LEE, (211, MWF 10:15-11:15) PA 517K
Instructor in English, 1015 Forest Court-p

A. B., Stanford, 1910, A. M., 1914. At Stanford, since 1911.

BURKE, WILLIAM EDMUND,
Acting Instructor in Chemistry, 603 Lytton-p

A. B., Stanford, 1907.

†BURLINGAME, LEONAS LANCELOT, (469) PA 1144
Assistant Professor of Botany, 20 Alvarado

Ph. B., Ohio Northern University, 1901; A. B., Chicago, 1906, Ph. D., 1908. Instructor in Biology, Ohio Northern University, 1901-04; Fellow in Botany, University of Chicago, 1906, Assistant, 1906-08. At Stanford, since 1908.

BURRELL, FLORENCE COTTON, PA 406X
Instructor in Roble Gymnasium, 364 Kingsley-p

A. B., Stanford, 1910. At Stanford, since 1913.

[1]CAMPBELL, CLARENCE P.,
Instructor in Mechanical Engineering, Reno, Nev.

A. B., Stanford, 1913. At Stanford, since 1912.

CAMPBELL, DOUGLAS HOUGHTON, (468, 9-12, 2-4) PA 1036
Professor of Botany, County Road

Ph. M., Michigan, 1882, Ph. D., 1886. Teacher of Biology, Detroit High School, 1882-86; Student at Bonn, Tübingen, and Berlin, 1886-88; Professor of Botany, Indiana University, 1888-91. At Stanford, since 1891.

†CANNON, HENRY LEWIN, (237, TWThF 9:15) PA 1046
Associate Professor of History, 19 Alvarado

A. B., Western Reserve, 1893; Ph. D., Pennsylvania, 1898. Student, Harvard University, 1893-94. Yale University, 1896-97; Fellow in European History, University of Pennsylvania, 1897-98; Instructor in History, University of Cincinnati, 1900-03. At Stanford, since 1903.

†CARRUTH, WILLIAM HERBERT, (209, WF 11:15) PA 299
Professor of Comparative Literature, Mirada av.

A. B., Kansas, 1880, A. M., 1883; A. M., Harvard, 1889, Ph. D., 1893. Student, Universities of Berlin and Munich, 1885-86; Morgan Fellow at Harvard University, 1888-89; Instructor in English, University of Kansas, 1879-80, Assistant Professor of Modern Languages, 1880-82, Professor, 1882-89, Professor of German, 1889-1913, Vice-President, 1901-13; Professor of German Literature, University of Wisconsin, Summer Session, 1907; President, Central Division American Modern Language Association, 1894-97. At Stanford, since 1913.

†CATHCART, ARTHUR MARTIN, (1, TTh 10:15-11:15) PA 197
Professor of Law, 1001 Ramona-p

A. B., Stanford, 1896. Student, Harvard University, 1896-97; Registered Office Clerk with Attorneys of Colorado Supreme Court, 1900-02; Attorney at Law, Colorado Springs (Colo.), 1903-04; Lecturer in Law, University of California, Summer Session, 1908; Professor of Law, University of Chicago, Summer Quarter, 1911. At Stanford, since 1904.

†CHARLES, SAMUEL WATSON, (M 3-5) PA 812L
Lecturer in Law, 251 Lincoln-p

A. B., Stanford, 1898.

†CHEADLE, JOHN BEGG, (2, TTh 11:15-12:15) PA 952
Acting Professor of Law, 616 Cowper-p

A. B., Kansas, 1898, LL. B., 1902. Student, University of Chicago Law School, summer quarter, 1910, 1911; Practicing Attorney, Alva, Okla., 1902-09; Assistant Professor of Law, University of Oklahoma, 1909-11, Professor. since 1911. At Stanford, 1914-15.

†CHENEY, WILLIAM FITCH, (Shreve Bldg.) SF, Pacific 2573
Clinical Professor of Medicine, 210 Post, SF-sf

B. L., California, 1885; M. D., Cooper Medical College, 1889. Professor of Principles and Practice of Medicine, Cooper Medical College, 1898-1912. At Stanford, since 1909.

†CLARK, ARTHUR BRIDGMAN, (95, 3-3:30) PA 1023
Associate Professor of Graphic Art, 4 Cabrillo

B. Ar., Syracuse, 1888, M. Ar., 1891. Director of Trade Schools and Instructor in Drawing, New York State Reformatory, Elmira (N. Y.), 1888-89; Instructor in Architecture, Syracuse University, 1889-92. At Stanford, since 1892.

†CLARK, GEORGE ARCHIBALD, (112, 8:30-12, 2:30-5) PA 1024
Academic Secretary, 7 Alvarado

B. L., Minnesota, 1891, A. M., 1911. Secretary, U. S. Fur Seal Commission, 1896-98; Special Investigator, Bureau of Fisheries, Fur Seal Investigation on the Pribilof Islands, 1909, 1912. At Stanford, since 1891.

†CLARK, GEORGE THOMAS, (Lib., 8:30-12:15, 1:30-4:30) PA 331K
Librarian, 14 Salvatierra

B. S., California, 1886. Assistant Librarian, University of California, 1886-87; Deputy State Librarian, California State Library, 1887-90, Classifier, 1890-94; Librarian, San Francisco Public Library, 1894-1907. At Stanford, since 1907.

†CLARK, JAMES CAMERON, (507, TWThF 2:30-4:30)
Assistant Professor of Electrical Engineering, 151 Embarcadero-p

B. S., Iowa State College, 1907; M. E. E., Harvard, 1912; Engineering Apprentice Course, Westinghouse Electric & Manufacturing Company, 1907-09; Instructor in Electrical Engineering, Case School of Applied Science, 1909-11; Engineer on Electrolysis Surveys, U. S. Bureau of Standards, Washington (D. C.), summer, 1911. At Stanford, since 1912.

†CLARK, WILLIAM REDWOOD PRICE, SF, West 1827
Clinical Instructor in Medicine, 240 Stockton, SF-sf

M. D., Cooper Medical College, 1899. Assistant Visiting Physician, City and County Hospital, San Francisco, 1901-04; Instructor in Medi-

cine, Cooper Medical College, 1905-11; Visiting Physician, Clinic of the San Francisco Association for the Study and Prevention of Tuberculosis, 1909-12; Visiting Physician, City and County Tuberculosis Hospital, San Francisco, 1911-12. At Stanford, since 1911.

†CLEVENGER, GALEN HOWELL, (552, 2-4) PA 809
Associate Professor of Metallurgy, 381 Hawthorne-p

B. S., South Dakota School of Mines, 1901, E. M., 1908; A. M., Columbia, 1903; Engineer, Stanford, 1906. Superintendent Tailings Plant Operating Cyanide Process, Rapid City (S. D.), 1899-1901; Assayer and Chemist, Dakota Mining Co., Deadwood (S. D.), 1901-02; Research Metallurgist, National Smelting Co., Rapid City (S. D.), and Horseshoe Mining Co., Terry (S. D.), 1903-04; Special Assistant, U. S. Geological Survey, in charge of Electric Smelting Experiments at Portland (Or.), 1904-05; Consulting Metallurgical Engineer for companies operating in the United States, Mexico, and Central America; Special Study of Hydro-Metallurgical Methods in Mexico, 1906-09. At Stanford, 1904-06, and since 1909.

†CONGDON, EDGAR DAVIDSON, (10m, 8-10) PA 396L
Assistant Professor of Anatomy, 330 Coleridge-p

A. B., Syracuse, 1901, A. M., 1902; Ph. D., Harvard, 1909. Austin Teaching Fellow in Zoology, Harvard University, 1906-09; Hooper Traveling Fellow in Zoology of Harvard University, at University of Zürich, 1909-10; Sheldon Traveling Fellow in Zoology of Harvard University, at Biologische Versuchs Anstalt and K. K. Institut für Radiumforschungen, Vienna, 1910-11; Instructor in Embryology, Cornell University Medical College, 1911-12. At Stanford, since 1912.

†COOPER, WILLIAM ALPHA, (35, TWTh 11:15-11:45) PA 1031K
Associate Professor of German, 35 Salvatierra

A. B., Marietta, 1892, A. M., 1897. Student, Universities of Bonn, Leipzig, and Paris, 1892-94; Instructor in German and French, Marietta College, 1895-99, Professor, 1899-1901. At Stanford, since 1901.

COOPER, WILLIAM SKINNER, (463) PA 210
Lecturer in Ecology, 1345 Webster-p

B. S., Alma College, 1906; Ph. D., Chicago, 1911. Graduate Student, Johns Hopkins, 1907-08, Chicago, 1909-11 (Fellow, 1910-11); Assistant in Ecology, Cold Spring Harbor Summer School of Brooklyn Institute of Arts and Sciences, 1907. At Stanford, 1914-15.

†COOVER, JOHN EDGAR, (416½, MT 1:30) PA 1109
Fellow in Psychic Research and Assistant Professor of Psychology, 11 Salvatierra

A. B., Stanford, 1904, A. M., 1905, Ph. D., 1912. At Stanford, since 1912.

COWAN, JOHN FRANCIS, (Medical Bldg., 2-5) SF, West 2107
Instructor in Surgery, 2101a Webster, SF-sf

A. B., Stanford, 1902; M. D., Cornell University Medical College, 1910; Assistant and Acting Instructor in Physiology, Leland Stanford Junior University, 1903-06.

COX, WILLIAM EDWARD, (222, TTh 10:15) PA 1171
Instructor in Economics, 25 Salvatierra

B., Texas, 1909, A. M., 1910.

ALBERT CORNELIUS, SF, Prospect 1069
sor of Pharmacology, 920 Leavenworth, SF-sf
ollege of Physicians and Surgeons, Baltimore, 1893. Student

at Johns Hopkins University, 1887-90, 1891-94, 1903. Assistant in Pharmacology, Johns Hopkins Medical School, 1894-1900; Pharmacologist, Bureau of Plant Industry, United States Department of Agriculture, 1904-08; Physiologist, Bureau of Animal Industry, United States Department of Agriculture, 1908-10. At Stanford, since 1910.

[†CROSS, CHARLES NORMAN,
Assistant Professor of Mechanical Engineering, Lynn, Mass.]

M. E., Cornell, 1906. Assistant Engineer, Long Island State Hospital, Brooklyn (N. Y.), 1905; Dynamo and Switchboard Attendant with the New York Edison Co., New York City, 1905-06; Electrician with the Lackawanna Steel Co., Buffalo (N. Y.), 1906. At Stanford, since 1906.

†CUBBERLEY, ELLWOOD PATTERSON, (51, TTh 10, 11:15, 12:15, W 2:30)
Professor of Education, PA 1019, 12 Cabrillo

A. B., Indiana, 1891; A. M., Columbia, 1902, Ph. D., 1905. Instructor in Science, Ridgeville College (Ind.), 1891; Professor of Physical Science, Vincennes University (Ind.), 1891-93, President, 1893-96; Superintendent of City Schools, San Diego (Cal.), 1896-98; Honorary Fellow, Columbia University, 1901-02, 1904-05; Professor of Education, University of California, Summer Session, 1901, 1906, Columbia University, Summer Session, 1907, University of Chicago, Summer Quarter, 1910, Harvard University, second half-year, 1910-11. At Stanford, since 1898.

†CUTTER, LAWRENCE EDMINSTER, (274, MT 2-4, TTh 9-12) PA 459Y
Assistant Professor of Mechanical Engineering, 627 Webster-p

A. B., Stanford, 1906. Machinist Apprentice and Journeyman, Union Iron Works, San Francisco, 1895-99, 1899-1902, 1903, 1904, Draftsman, 1905, 1906. At Stanford, since 1906.

†DAILEY, MORRIS ELMER, San Jose 237
Lecturer in Education, San Jose-sj

A. M., Indiana, 1897; LL. D., Drake, 1901. Superintendent of City Schools, Fresno (Cal.), 1897-99; Vice-President and Teacher of History, San Jose State Normal School, 1899-1900, President, since 1900.

†DAVIDSON, PERCY ERWIN, (53, TTh 9:30-10:15) PA 1442R1
Associate Professor of Education, Menlo Heights

A. B., Stanford, 1898; A. M., Harvard, 1905. Teacher, Grammar and High Schools, San Diego (Cal.), 1898-1900; Supervisor of History and English Teaching, San Francisco State Normal School, 1900-03; Assistant in Education, San Diego State Normal, 1903-04; Graduate Student, Teachers' College, Columbia University, 1905-07; Instructor in Logic and History of Education, New York Training School for Teachers, 1906-07. At Stanford, since 1907.

†DICKSON, ERNEST CHARLES, (Lane Hospital) SF, Fillmore 1271
Assistant Professor of Medicine, 2294 Broderick, SF-sf

A. B., Toronto, 1904, M. B., 1906. Assistant Demonstrator in Physiology, University of Toronto, 1904-05, George Brown Research Scholar, 1906-07; Assistant Resident Physician, Johns Hopkins Hospital, 1907-08; Instructor in Pathology and Bacteriology, Cooper Medical College, 1908-10. At Stanford, since 1910.

†DOANE, RENNIE WILBUR, (430a, 1:30-4:30) PA 792L
Assistant Professor of Entomology, 527 Homer-p

A. B., Stantord, 1896. Assistant in Zoology and Botany, Washington State College, 1896-99; Assistant Professor of Zoology and Entomology, 1899-1901; Superintendent Fisheries Experiment Station, Keyport, (Wn.), 1901-03. At Stanford, since 1905.

†DREW, ELMER REGINALD, (384, MWF 11:15-11:30) PA 362
Assistant Professor of Physics, 1321 Waverley-p

B. S., California, 1888; Ph. D., Cornell, 1903. Student, University of Chicago, 1897-98, University of Berlin, 1903-05; Assistant in Physics, University of California, 1889-92, Instructor, 1892-1902. At Stanford, since 1905.

†DURAND, WILLIAM FREDERICK, (260, MTWTh 11:15-12:15) PA 1076
Professor of Mechanical Engineering, 2 San Juan

Graduate U. S. Naval Academy, 1880; Ph. D., Lafayette, 1888. Engineer Corps, U. S. Navy, 1880-87; Special Duty as Assistant Professor of Mechanical Engineering, Lafayette College, 1883-85, Worcester Polytechnic Institute, 1887; Professor of Mechanics and Superintendent of Mechanical Department, Michigan State Agricultural and Mechanical College, 1887-91; Professor of Marine Engineering and Principal Graduate School of Naval Architecture and Marine Engineering, Cornell University, 1891-1904. At Stanford, since 1904.

DYER, THOMAS LAFFAYETTE, PA 1013
Acting Chief of Loan Desk, Library, Encina

A. B., Stanford, 1914.

†EATON, LOUIS H., (Memorial Church, TTh 10-10:30) PA 857
Organist, 431 University av.

†EAVES, JAMES, (240 Stockton, 1:30-4) SF, Fillmore 2446
Clinical Instructor in Surgery, 2511 Octavia, SF-sf

M. B. Ch. B., Edinburgh, 1909. Assistant, Guy's Hospital, London, 1910-11. At Stanford, since 1911.

†ECKART, WILLIAM RANKINE, (503, 1:30-4:30) PA 227
Professor of Mechanical Engineering, 1445 Bryant-p

M. E., Cornell, 1895. Mechanical Engineer, Siemens Halske Electric Co., Chicago, 1895-96; Construction Engineer, Allison Ranch Mine, Grass Valley (Cal.), 1896-98; Testing Work for Fraser & Chalmers, in Hawaii and Mexico, 1898-99; with W. R. Eckart, Consulting Engineer, Hydraulic Power Plants and Mining Work, 1899-1903, summers of 1904-08; Consulting Engineer, Geary St. P. & O. R. R., San Francisco, 1902-06. At Stanford, since 1903.

†ELLIOTT, ORRIN LESLIE, (117, 8:15-12:15, 1:30-4:30, S 9-12) PA 1045
Registrar, 5 Cabrillo

Ph. B., Cornell, 1885, Ph. D., 1890. Fellow in History and Political Science, Cornell University, 1885-86, Instructor in English, 1886-91, Assistant Registrar and President's Secretary, 1890-91. At Stanford, since 1891.

†ELMORE, JEFFERSON, (22, TTh 10:15-11:15) PA 251
Associate Professor of Latin, 1134 Emerson-p

A. B., Stanford, 1895, A. M., 1895, Ph. D., 1901. Principal of Merced County High School, 1895-97; Student, Universities of Bonn and Berlin, 1901-02. At Stanford, since 1898.

ELOESSER, LEO, (739 Butler Bldg., 2-4) SF, Sutter 326
Assistant Professor of Surgery, 135 Stockton, SF-sf

B. S., University of California, 1900; State Medical Examination for German Empire, 1906; M. D., Heidelberg, 1907. Volunteer Assistant, Surgical Clinic, Heidelberg, 1906; Assistant, Cancer Institute, Heidel-

berg, 1906-07; Volunteer Assistant, Royal Surgical Clinic, Kiel, 1908-09; Volunteer Assistant, August Hospital, Berlin, 1909; Assistant in Surgery, University of California, 1910-12.

†ELY, LEONARD W., (Lane Hospital, 12-1) PA 864
Associate Professor of Orthopedic Surgery, 301 Addison-p

A. B., Columbia, 1889; M. D., College of Physicians and Surgeons, Columbia University, 1895. At Stanford, since 1913.

†ESPINOSA, AURELIO MACEDONIO, (245, TTh 10:15-10:50)
Assistant Professor of Romanic Languages, 543 Middlefield

A. B., Colorado, 1902, A. M., 1904; Ph. D., Chicago, 1909. Assistant in Romance Languages, University of Colorado, 1901-02, Instructor in Spanish, Summer Term, 1904, 1905; Professor of Romance Languages, University of New Mexico, 1902-10; Fellow in Romance Languages and Instructor in Spanish, University of Chicago, 1908-09; Membre fondateur et callabrateur special de la Société International de Dialectologie Romane, 1909; Membro correspondiente de la Sociedad de Folklore chileno, 1910. At Stanford, since 1910.

†FAIRCLOUGH, HENRY RUSHTON, (22, TTh 9:15-9:30) PA 1052K
Professor of Latin, 6 Alvarado

A. B., Toronto, 1883, A. M., 1886; Ph. D., Johns Hopkins, 1896. Fellow in Classics, University College, Toronto, 1883-84; Classical and English Master, Brockville High School, 1884-86; Graduate Scholar, Johns Hopkins University, 1886-87, Fellow, 1887; Lecturer in Greek and Ancient History, University College, Toronto, 1887-93; Professor of Latin, University of Wisconsin, Summer Session, 1906, Columbia University, Summer Session, 1908, University of Chicago, Summer Quarter, 1910; Professor of Latin, American School of Classical Studies, Rome, 1910-11. At Stanford, since 1893.

†FISH, JOHNCHARLESLOUNSBURY, (269,M1:40-4:30,TTh10:15) PA308
Professor of Railroad Engineering, 1101 Emerson

C. E., Cornell, 1892. Instructor in Civil Engineering, Cornell University, 1892-93; Division Engineer, Lake Shore and Michigan Southern Railway, 1906-08. At Stanford, since 1893.

FISHER, WALTER KENRICK, (441, 8:15-12:15)
Assistant Professor of Zoology, 1525 Waverley-p

A. B., Stanford, 1901, A. M., 1903, Ph. D., 1906. Assistant, U. S. Biological Survey, 1897-1901, 1903; Assistant. U. S. Fish Commission, 1902. At Stanford, since 1902.

*†FLÜGEL, EWALD,
Professor of English Philology, 1153 Cowper

Ph. D., Leipzig, 1886. Student, Universities of Freiburg and Leipzig, 1882-88; Privat Docent, University of Leipzig, 1888-92. At Stanford, since 1892.

†FOLSOM, DAVID MORRILL, (556, 9:15-10:15, 2-4) PA 429
Associate Professor of Mining, 320 Embarcadero-p

A. B., Stanford, 1902, Engineer, 1904. Student Columbia School of Mines, 1902-03; Engineer with Boston and Montana Consolidated Copper and Silver Mining Co., 1904-09. At Stanford, since 1910.

*Deceased, November 14, 1914.

†Foss, John Harrison, (269, MTThF 1:30) PA 540L
Assistant Professor of Civil Engineering, 640 Waverley-p

A. B., Stanford, 1903. Assistant Engineer, Hamakua Ditch, Huelo, Maui (Hawaiian Islands), 1903-04, Engineer, 1904-05; Engineer, Maui Agricultural Co., Paia, Maui, 1905-07. At Stanford, since 1907.

†Foster, Benjamin Oliver, (22, M 10:15)
Associate Professor of Latin, 521 Addison-p

A. B., Stanford, 1895; A. M., Harvard, 1897, Ph. D., 1899. Parker Fellow of Harvard University, studying in the American School of Classical Studies in Rome, 1899-1900; Acting Professor of Latin and Greek, State Normal College of Michigan, 1900-01; Instructor, University of California, Summer Session, 1908. At Stanford, since 1901.

†Franklin, Edward Curtis, (35c) PA 216
Professor of Chemistry, 1057 Ramona

B. S., Kansas, 1888, M. S., 1890; Ph. D., Johns Hopkins, 1894. Chemist to the Palo Alto Plantation and Sugar Factory, Donaldsonville (La.), 1888; Chemist to the Bella Vista Mining and Milling Co., Los Quemados, Costa Rica, 1897; Instructor in Chemistry, University of Kansas, 1888-90; Student, University of Berlin, 1890-91; Assistant in Chemistry, University of Kansas, 1891-93, Associate Professor, 1894-99, Professor of Physical Chemistry, 1899-1903; Member of the U. S. Assay Commision, 1907; Chief of the Division of Chemistry, U. S. Public Health and Hospital Service, Washington, D. C., 1911-13. At Stanford, since 1903.

†Gardner, David Charles, (Vestry, TWThF 9-12) PA 1068
Chaplain, 1a Alvarado

Graduate, Church Divinity School of the Pacific, San Mateo, 1897. Curate, St. James Mission, San Francisco, 1898; Rector of All Saints Church, Palo Alto, 1898-1902. At Stanford, since 1902.

[2]†Garfias, Valentine Richard, (556, 10:15-12:15) PA 539K
Acting Assistant Professor of Geology and Mining, 515 Waverley

A. B., Stanford, 1907.

Garver, Frederick Benjamin, (221, TTh 10:15, F11:15) PA 689Y
Instructor in Economics, 707 Bryant

A. B., Nebraska, 1909. Graduate Student, University of Wisconsin, 1909-10; Special Agent, Wisconsin Tax Commission, 1910; Fellow in Political Economy, University of Chicago, 1910-11, Assistant, 1911-12; Graduate Student, Harvard University, 1912-13; Instructor in Political Economy, University of Chicago, 1912-14. At Stanford, since 1914.

†Gibbons, Henry Walter, (350 Post st., 3-5) SF, Fillmore 3740
Clinical Instructor in Gynecology and Obstetrics 3491 Pacific, SF-sf

B. S., University of California, 1899; M. D., Cooper Medical College, 1902. Instructor in Pathology, Cooper Medical College, 1905-07; Instructor in Gynecology, 1907-11. At Stanford, since 1912.

†Gibbons, Morton Raymond, (350 Post st.) SF, Pacific 1658
Clinical Instructor in Medicine, 3979 Washington, SF-sf

A. B., University of California, 1891; M. D., Cooper Medical College, 1894. Instructor in Clinical Medicine, Cooper Medical College, 1904-09. At Stanford, since 1912.

†Gilbert, Charles Henry, (443, 9:30-10:30) PA 258
Professor of Zoology, 433 Melville

B. S., Butler University, 1879; M. S., Indiana, 1882; Ph. D., 1883. Assistant in Natural Sciences and Modern Languages, Indiana University, 1880-84; Professor of Natural History, University of Cincinnati, 1884-89; Professor of Zoology, Indiana University, 1889-91; Assistant to the U. S. Bureau of Fisheries, since 1880; Assistant, in charge of scientific exploration of the U. S. S. "Albatross," 1889, 1890, 1902, 1904, 1906. At Stanford, since 1891.

Girard, Frank Robert, (1018 Shreve Bldg., 2-4) Franklin 2938
Clinical Instructor in Obstetrics and Gynecology,
2003 Franklin, SF-sf

M. D., California, 1903. Volunteer Assistant in Surgery, Koenigliche Klinic, Berlin, 1905-06; House Surgeon, St. Luke's Hospital, New York, 1906-08; Assistant Resident Physician, Sloan Maternity Hospital, 1908; Attending Gynecologist and Obstetrician, San Francisco Hospital, Stanford Division, 1915.

Graham, Harrington Bidwell, (1023 Head Bldg., 10-1) Berkeley 1215
Clinical Assistant Professor of Surgery, 209 Post, SF-sf

B. S., California, 1896, M. D., 1899. Superintendent of Waldeck Sanitarium, 1899; Assistant in Surgery, San Francisco Polyclinic, 1904; Assistant, Ear, Nose, and Throat Clinic, Cooper Medical College, 1910-11. At Stanford, since 1912.

†Grass, Donald Frederick, (221, MWF 10:15-11:15) PA 518X
Assistant Professor of Economics, 170 Waverley-p

Ph. B., Grinnell, 1894; A. B., Harvard, 1898, A. M., 1899; Ph. D., Stanford, 1914. Instructor in History and Economics, Council Bluffs (Ia.), High School, 1894-97, 1906-08; Professor of History and Economics, Tabor College, 1908-10. At Stanford, since 1910.

[†Gray, Henry David,
Assistant Professor of English, 501 W. 121 St., New York, N. Y.]

Ph. B., Colgate, 1897; A. M., Columbia, 1898, Ph. D., 1904. Assistant in German and French, Colgate Academy, 1896-97: University Scholar, Columbia University, 1898-1900; Instructor in Dramatic Literature, American Academy of Dramatic Arts, 1900-02; Instructor in English, University of Texas, 1902-05; Lecturer in English, Columbia University, Summer Session, 1905. At Stanford, since 1905.

Green, Mary S. (Mrs.) PA 1002
Matron of Roble Hall, Roble

†Green, Rufus Lot, (71, 11:15-12:15) Local 108
Professor of Mathematics, 13 Salvatierra

B. S., Indiana, 1885, A. M., 1889. Instructor in Mathematics, Indiana University, 1885-86, Assistant Professor, 1886-88, Associate Professor, 1889-91, Professor of Pure Mathematics, 1891-93; Student, Johns Hopkins University, 1886-87. At Stanford, since 1893.

†Griffin, James Owen, (35, 10:15-10:45) PA 1054
Professor of German, 14 Alvarado

Graduate of the Pennsylvania State Normal School, 1873. Teacher in Pennsylvania State Normal School, 1873-74; Principal, Unadilla (N. Y.) Academy, 1874-79; Student, University of Göttingen, 1879-80; Principal of Delaware Academy (Delhi, N. Y.), 1880-85; Instructor in German, Cornell University, 1885-91, Registrar, 1890-91. At Stanford, since 1891.

†Grojean, Gabriel Henri, (245, MWF 10:15)
Instructor in French, 451 Channing-p

B. A. and B. S., University of Lille (France), 1892-93; J. D., University of Toulouse, 1898, Licencié-ès-lettres, 1900. Lecturer in Germany, Student at University of Königsberg and in Italy, Teacher of Modern Languages in French high schools, 1911; Instructor in Romanic Languages, University of Pennsylvania, 1913. At Stanford, since 1914.

†de Haas, Jacob Anton, (219, MWF 10:15-10:45)
Instructor in Economics, University Park

A. B., Stanford, 1910; A. M., Harvard, 1911. At Stanford, since 1913.

Hadden, Elizabeth, PA 434L
Chief of Order Department, Library, 1157 Ramona-p

[1]Hall, Anna Gertrude,
Cataloguer, Lane Medical Library, Albany, N. Y.

A. B., Stanford, 1906.

†Hall, Howard Judson, (206, TTh 10:15) PA 530Y
Assistant Professor of English, 209 Addison-p

B. S., Michigan State Agricultural College, 1890; A. B., Stanford, 1896; A. M., Harvard, 1900. Professor of English and Librarian, University of Arizona, 1891-1904. At Stanford, since 1904.

†Harcourt, Robert Henry, (541, 8:15-12:15, 1:30-4:30)
Instructor in Mechanical Engineering, 559 Everett-p

Blacksmith with Risdon Iron Works, San Francisco, 1898-1901, 1903-04; with Hammond Car and Elevator Company, San Francisco, 1901-02, 1904-05; with National Iron Works, San Francisco, 1902-03; with Abner Doble Steel Company, San Francisco, 1905-06, Foreman of Forge Shop, 1906-07. At Stanford, since 1907.

Hays, Alice Newman, PA 1052X
Reference Librarian, 3 Alvarado

A. B., Stanford, 1896; B. L. S., New York State Library School, 1903. Assistant, Home Education Department, New York State Library, 1901.

†Heath, Harold, (436, MTThF 1:30-4) PA 557L
Professor of Zoology, 1147 Ramona-p

A. B., Ohio Wesleyan, 1893; Ph. D., Pennsylvania, 1898. Assistant in Biology, Ohio Wesleyan University, 1891-93; Professor of Biology, University of the Pacific, 1893-94; Harrison Fellow in Zoology, University of Pennsylvania, 1896-98. At Stanford, since 1894.

[†Hempl, George,
Professor of Germanic Philology, Ann Arbor, Mich]

A. B., Michigan, 1879; Ph. D., Jena, 1889; LL. D., Wisconsin, 1904. Principal, Saginaw (Mich.) H. S., 1879-82, La Porte (Ind.) H. S., 1882-84; Instructor in German, Johns Hopkins University, 1884-86; Student, Universities of Göttingen, Tübingen, Strassburg, Jena, and Berlin, 1886-89; Assistant Professor of English, University of Michigan, 1889-93, Junior Professor, 1893-97, Professor of English Philology and General Linguistics, 1897-1906; Professor of English, University of Chicago, Summer Quarter, 1897; President of the American Dialect Society, 1900-05; President of the Modern Language Association, 1902-03; President of the American Philological Association, 1903-04. At Stanford, since 1906.

HILL, FRANK ERNEST, (206, TTh 9:15, MW 1:30)
Instructor in English, 750 Bryant-p

A. B., Stanford, 1911, A. M., 1914. Assistant in English, University of Illinois, 1912-13. At Stanford, since 1913.

HILL, HAROLD PHILLIPS, (177 Post st., 2-4) SF, West 967
Clinical Associate Professor of Medicine, 2336 Steiner, SF-sf

A. B., Stanford, 1898; M. D., University of California, 1901. Assistant in Physiology, Department of Medicine, University of California, 1899-1901, Instructor, 1901-03; Assistant Visiting Physician, St. Luke's Hospital, 1903-06, Visiting Physician, since 1906. At Stanford, since 1912.

HILMER, HERMANN JOHANN, (35, MW 9:15)
Assistant Professor of German, 552 Hamilton

A. B., Michigan, 1904; A. M., Columbia, 1905; Ph. D., Stanford, 1912. Assistant in German, University of Wisconsin, 1905-06; Student, University of Leipzig, 1906-07. At Stanford, since 1907.

2‡†HINMAN, FRANK, (521 Physicians Bldg.) SF, Prospect 4071
Assistant Clinical Professor of Genito-Urinary Surgery, 516 Sutter, SF-sf

A. B., Stanford, 1902; M. D., Cooper Medical College. At Stanford, since 1915.

†HIRSCHFELDER, JOSEPH OAKLAND, (275 Post st., SF, 2-4) SF, West 757
Clinical Professor of Medicine, Emeritus, 1392 Geary, SF-sf

M. D., University of Leipzig, 1876. Professor of Materia Medica, Medical College of the Pacific, 1877-81, Professor of Clinical Medicine, 1881-82; Professor of Clinical Medicine, Cooper Medical College, 1882-1912; Visiting Physician, City and County Hospital of San Francisco, 1878-1912; Visiting Physician, Lane Hospital, 1895-1912. At Stanford, since 1909, Emeritus since 1912.

[HOHFELD, WESLEY NEWCOMB,
Professor of Law, New Haven, Conn.]

A. B., California, 1901; LL. B., Harvard, 1904. Attorney at Law, California, since 1904, in General Practice, San Francisco, 1904-05; Instructor in Code Pleading and Practice, Hastings College of Law, University of California, 1905; Lecturer in Law, University of California, Summer Session, 1907; Associate Professor of Law, University of Chicago, Summer Quarter, 1908, Professor of Law, Summer Quarter, 1910, Autumn Quarter, 1911, Columbia University, Summer Session, 1914; Representative of Carnegie Foundation for Investigation of Pacific Coast Systems of Admission to the Bar, 1913-14. At Stanford, since 1905.

†HOISHOLT, ANDREW WILLIAM,
Clinical Professor of Psychiatry, State Hospital, Napa-n

M. D., Cooper Medical College, 1882; M. D., University of Heidelberg, 1884. Adjunct to chair of Physiology, Cooper Medical College, 1891-95; Assistant Physician, State Hospital, Stockton, 1889-1913; Superintendent Napa State Hospital, since 1913. At Stanford, since 1912.

HOLSCLAW, FLORENCE MABEL, (Scroth Bldg., 12-2) SF, Prospect 3700
Clinical Instructor in Medicine, 1373 Clay, SF-sf

A. B., Stanford, 1894; M. D., Cooper Medical College, 1897. Assistant in Pediatrics, Cooper Medical College, 1900-11. At Stanford, since 1912.

†HOSKINS, LEANDER MILLER, (275, 11:30-12) PA 75
Professor of Applied Mathematics, 365 Lincoln-p

B. C. E. and B. S., Wisconsin, 1883, M. S., 1885, C. E., 1887. Instructor in Engineering, University of Wisconsin, 1885-89, Assistant Professor of Mechanics, 1889-91, Professor of Theoretical and Applied Mechanics, 1891-92. At Stanford, since 1892.

†HUSTON, CHARLES ANDREWS, (7, TWTh 2-3) PA 782Y
Professor of Law, 1040 Ramona-p

A. B., Chicago, 1902, J. D., 1907; S. J. D., Harvard, 1913. Fellow in Political Economy, University of Chicago, 1902-03; Assistant in Rhetoric, 1903-04; Associate in Rhetoric, 1904-06. At Stanford, since 1906.

ICHIHASHI, YAMATO, (223, MWF 10:15-11) PA 954K
Instructor in Japanese History and Government, 1010 Emerson-p

A. B., Stanford, 1907, A. M., 1908; Ph. D., Harvard, 1914. Assistant in Economics, Leland Stanford Junior University, 1908-10; Special Agent for U. S. Immigration Commission, 1908-10; Graduate Student, Harvard University, 1910-12, Henry Bromfield Roger Memorial Fellow in Sociology, 1911-12. At Stanford, since 1913.

IVES, MARY,
Cataloguer, Library, 220 Emerson-p

A. B., Minnesota, 1906. Student, Wisconsin Library School, 1911-12; Librarian, High School Branch of Madison (Wis.) Free Library, 1912-14. At Stanford, since 1914.

†JENKINS, OLIVER PEEBLES, (482) PA 1040X
Professor of Physiology and Histology, 3 Lasuen

A. B., Moore's Hill College, 1869, A. M., 1872; M. S., Indiana, 1886, Ph. D., 1889. Professor of Natural Science, Moore's Hill College, 1876-82; Professor of Natural Science, Indiana State Normal School, 1883-86; Professor of Biology, De Pauw University, 1886-91. At Stanford, since 1891.

†JOHNSTON, OLIVER MARTIN, (242, TWTh 3:30, MWF 11)
Professor of Romanic Languages, PA 1061K, 4 Alvarado

A. B., Mississippi College, 1890, A. M., 1892; Ph. D., Johns Hopkins, 1896. Principal, Preparatory Department, Mississippi College, 1890-91, Professor of English, 1891-93; Fellow in Johns Hopkins University, 1895-96; Lecturer in French Philology, Bryn Mawr College, 1896-97. At Stanford, since 1897.

†JORDAN, DAVID STARR, (425, 3-5) PA 1001
Chancellor, Xasmin House

M. S., Cornell, 1872; M. D., Indiana Medical College, 1875; Ph. D., Butler College, 1878; LL. D., Cornell, 1886, Johns Hopkins, 1902, Illinois College, 1903. Instructor in Botany, Cornell, 1871-72; Professor of Natural History, Lombard University, 1872-73; Principal of Appleton (Wis.) Collegiate Institute, 1873-74; Lecturer in Marine Botany at Penikese, 1873-74; Teacher of Natural History, Indianapolis H. S., 1874-75; Professor of Biology, Butler College, 1875-79; Instructor in Botany, Harvard Summer School, Cumberland Gap, 1875-76; Assistant to U. S. Fish Commission, 1877-91; Professor of Zoology, Indiana University, 1879-85; President of Indiana University, 1885-91; President of the California Academy of Sciences, 1896-98, 1901-03, 1908, 1911; U. S. Commissioner in charge of Fur Seal Investigations, 1896-98, of Salmon Investigations, 1904; International Commissioner of Fisheries,

1908-10; President of the American Association for the Advancement of Science, 1909-10; Member of International Commission of Zoological nomenclature, from 1904; Chief Director, World Peace Foundation, since 1910. President of Leland Stanford Junior University, 1891-1913, Chancellor since 1913.

KELLER, LENA MARGUERITE,
Cataloguer, Library, 233 Addison-p

A. B., Cornell, 1903.

†KELLOGG, VERNON LYMAN, (431, 11-12) PA 1141
Professor of Entomology, 14 Cabrillo

B. S., Kansas, 1889, M. S., 1892. Student, Cornell University, 1891, University of Leipzig, 1893; Assistant Professor of Entomology, University of Kansas, 1890-93, Associate Professor, 1893-94. At Stanford, since 1894.

†KELLOGG, WILFRED HARVEY, SF, Fillmore 1751
Clinical Instructor in Hygiene, 1085 Mission st., SF-sf

Ph. G., California, 1892, M. D., 1896. Interne, City and County Hospital, San Francisco, 1896-97; Special Student, Leland Stanford Junior University, 1897-98; Bacteriologist, San Francisco Health Department, 1900-03; Student, Philadelphia, 1903, London, 1904; State Bacteriologist, California, 1908; Acting Assistant Surgeon, U. S. Public Health Service detailed for plague investigation in Venezuela, 1909-11; Director of Laboratories, Department of Public Health, San Francisco, since 1912.

†KENNEDY, ARTHUR GARFIELD, (212, MW 10:30, M 3:30) PA 729K
Instructor in English Philology, 1130 Bryant-p

A. B., Doane College, 1902; A. M., Nebraska, 1905; Ph. D., Stanford, 1914.

†KIRKWOOD, MARION RICE, (6, MTThF 2-2:30) PA 436Y
Assistant Professor of Law, 1325 Bryant-p

A. B., Stanford, 1909, J. D., 1911. Student, Harvard Law School, 1909-10; Assistant Professor of Law, University of Oklahoma, 1911-12. At Stanford, since 1912.

KNOCH, CHARLOTTE A., (35, MWF 10:30-11:30) PA 1061X
Instructor in German, 12 Alvarado

A. B., Stanford, 1897. Student, University of Göttingen, 1894, University of Berlin, 1913-14; Teacher in Los Angeles Schools, 1890-93; in charge of Modern Languages, Pasadena High School, 1898-1902, Vice-Principal and Head of Modern Languages, 1902-11, of Modern and Ancient Languages, 1911-13. At Stanford, since 1914.

†KREHBIEL, EDWARD BENJAMIN, (230, TF 10:15-10:30) PA 1129
Professor of History, 29 Salvatierra

A. B., Kansas, 1902; Ph. D., Chicago, 1906. Graduate Student, University of Chicago, 1902-06, Fellow, 1903-05, Assistant, 1904-06; Graduate Student, Harvard University, 1904; Student, Ecole de Chartes, Paris. 1905; Instructor, University of Chicago High School, 1905-06; Assistant in History, University of Chicago, 1906-07, Instructor, 1907-09. At Stanford, since 1909.

†LENOX, LIONEL REMOND, (40c, 2-4) Mt. View 47
Professor of Analytical Chemistry, Mountain View

Ph. B., Columbia, 1888. Assistant Chemist, Bethlehem Iron Co., 1887; Instructor in Chemistry, Lehigh University, 1888-91; Chemist, Ordnance Department, U. S. N., Washington (D. C.), 1891-92. At Stanford, since 1892.

†Lesley, Everett Parker, (266, MWF 9:15) PA 253
Associate Professor of Mechanical Engineering, 807 Waverley

A. B., Stanford, 1897; M. M. E., Cornell, 1905. Apprentice and Foreman in Union Iron Works, San Francisco, 1897-1903. Assistant Inspector to Naval Constructor, 1903-04; Draftsman at U. S. Experimental Model Basin, Washington (D. C.), 1905-07. At Stanford, since 1907.

†Liggett, James Bennett, (540, 8:15-12:15, 1:30-4:30) PA 533L
Instructor in Foundry Practice, 445 Forest-p

Apprentice and Foundry Moulder, Falls Rivet and Machine Co., Cuyahoga Falls (Ohio), 1883-88, Webster, Camp & Lane, Akron (Ohio), 1888-93, Bowler & Co., Cleveland (Ohio), 1893-98, Cleveland Steel Casting Co., 1898-99; Foreman, Born Steel Range Co., Cleveland (Ohio), 1899-1902, Westinghouse Electric Co., Cleveland (Ohio), 1902. At Stanford, since 1902.

McCracken, Mary Isabel, (433, 8:15-12:15)
Assistant Professor of Entomology, 5 Salvatierra

A. B., Stanford, 1904, A. M., 1905, Ph. D., 1908. At Stanford, since 1904.

†McDowell, John Ezra, (120, 8:15-12:15, 1:30-4:30) PA 1044
Assistant Registrar, 10 Cabrillo

A. B., Stanford, 1900. At Stanford, since 1900.

†McFarland, Frank Mace, (480, TTh 9:15-12:15, MTW 1:30-4)
Professor of Histology. PA 480, 2 Cabrillo

Ph. B., De Pauw, 1889; A. M., Stanford, 1893; Ph. D., Würzburg, 1896. Professor of Biology and Geology, Olivet College, 1889-92; Student, Würzburg, Zürich, and Naples, 1894-96. At Stanford, since 1892.

†McKee, Albert Brown, SF, Garfield 371
Clinical Professor of Surgery, 1256 Flood Bldg., SF-sf

Ph. B., University of the Pacific, 1883, Ph. M., 1886; M. D., Cooper Medical College, 1886. Instructor and Acting Head of the Eye, Ear, Nose, and Throat Division, University of California Medical Department, 1902-08; Associate Professor of Ophthalmology, Cooper Medical College, 1908-12. At Stanford, since 1912.

†McMurphy, James Ira Wilson, (429, TTh 9:15-12:15)
Instructor in Botany, College Terrace

A. B., Stanford, 1908, A. M., 1909. At Stanford, since 1908.

†Maloney, Henry Wilfred, PA 696,
Acting Instructor in Physical Training, 176 Waverley-p

†Manning, William Albert, (62, TTh 9:15) PA 689L
Associate Professor of Applied Mathematics, 604 Tennyson-p

A. B., Willamette University, 1900; A. M., Stanford, 1902, Ph. D., 1904. Acting Assistant Professor of Mathematics, University of Illinois, 1909-10. At Stanford, since 1900.

Manwaring, Wilfred Hamilton, (15m, MW 9-11) PA 1041
Professor of Bacteriology and Immunity, 12 Dolores

B. S., Michigan, 1895; M. D., Johns Hopkins, 1904. Instructor in Physiology, State Normal School, Winona, Minn., 1898-1901; Fellow and Assistant in Pathology, University of Chicago, 1904-05; Associate Professor of Pathology, Indiana University, 1905-07; Traveling Fellow, Rocke-

feller Institute, 1907-08, Assistant in Pathology and Bacteriology, 1910-13; Research worker, Emil Fischer's Laboratory and v. Wasserman's Laboratory, Berlin, 1907-08, Pathological Institute, Leipzig, and Ehrlich's Laboratory, Frankfort-on-Main, 1908-09, Physiological Institute, London, and Lister Institute of Preventive Medicine, London, 1909-10. At Stanford, since 1913.

†MARTIN, ERNEST WHITNEY, (25, TTh 10:15) PA 132
Associate Professor of Greek, 525 Lincoln-p

A. B., Chicago, 1900; A. M., Stanford, 1902, Ph. D., 1910. Instructor in Latin and Greek, Private School, Clarinda (Ia.), 1895-96, Principal of High School, 1896-98; Student, University of Berlin, and American School of Classical Studies, Rome, 1900-01; Acting Professor of Latin and Greek, University of Nevada, 1908-09, Professor of Greek, 1909-10. At Stanford, since 1901.

MARTIN, LILLIEN JANE, (401, TTh 4) PA 909
Professor of Psychology, 15 Salvatierra

A. B., Vassar, 1880; M. L. A. and Ph. D., Bonn, 1913. Teacher of Science, Indianapolis High School, 1880-89: Vice-Principal and Head of Department of Science, Girls High School, San Francisco, 1889-94; Student, University of Göttingen, 1894-98. At Stanford, since 1899.

†MARTIN, PERCY ALVIN, (230, TTh 10:15-10:45) PA 455Y
Assistant Professor of European History, 380 Kingsley

A. B., Stanford, 1902, A. M., 1903; A. M., Harvard, 1907, Ph. D., 1912. Student, University of Paris, 1903-04, Universities of Berlin and Leipzig, 1907-08; Fellow. Harvard University, 1908; Professor of History and French, Whittier College, 1904-05. At Stanford, since 1908.

†MARX, CHARLES DAVID, (271, 8:15-9:15) PA 255
Professor of Civil Engineering, 357 Kingsley

B. C. E., Cornell, 1878; C. E., Karlsruhe Polytechnicum, 1881. Instructor in Civil Engineering, Karlsruhe Polytechnicum, 1880-81; U. S. Assistant Engineer, Missouri River Improvement, 1882-84; Assistant Professor of Civil Engineering, Cornell University, 1884-90; Professor of Civil Engineering, University of Wisconsin, 1890-91. At Stanford, since 1891.

†MARX, GUIDO HUGO, (274, 9:15) PA 715
Professor of Mechanical Engineering, 356 Lincoln

M. E., Cornell, 1893. With Gleason Tool Co., Rochester (N. Y.), 1893-94; with Bement, Miles & Co., Philadelphia, 1894-95. At Stanford, since 1895.

†MEYER, ARTHUR WILLIAM, (7m, MWF 11-12) PA 335K
Professor of Anatomy, 121 Waverley-p

B. S., Wisconsin, 1898; M. D., Johns Hopkins, 1905; Assistant and Instructor in Anatomy, Johns Hopkins University, 1905-07; Assistant Professor of Anatomy, University of Minnesota, 1907-08; Professor of Anatomy, Northwestern University, 1908-09. At Stanford, since 1909.

[†MILLER, STEPHEN IVAN, JR.,
Assistant Professor of Economics, Cambridge, Mass.]

LL. B., University of Michigan, 1896; A. B., Stanford, 1898. Student at Heidelberg, 1900-02, University of Michigan, 1902-03; Quiz-Master, University of Michigan, 1903-04; Instructor in Economics and History, Pasadena High School, 1905-07; in United States Forest Service, 1908-10; Instructor in Economics, Los Angeles Polytechnic High School, 1910-12. At Stanford, since 1912.

MIRRIELEES, EDITH RONALD, (207¼, T 3:30, F 9:15) PA 723K
Instructor in English, 1027 Emerson
A. B., Stanford, 1907. At Stanford, since 1909.

†MITCHELL, JOHN PEARCE, (10c, 2-4) PA 722
Assistant Professor of Chemistry, 235 Embarcadero
A. B., Stanford, 1903, A. M., 1904, Ph. D., 1909. Student, University of Leipzig, 1904-05. At Stanford, 1903-04, and since 1905.

MOORE, CHESTER BIVEN, (291 Geary, 4-5) SF, Fillmore 2192
Clinical Instructor in Obstetrics and Gynecology, 291 Geary, SF-sf
B. S., California, 1906, M. D., 1910. Interne, University of California Hospital, 1909-11; House Officer, Children's Hospital, Boston, 1911-12.

MORENO, HALCOTT CADWALADER, (63, 11:15) PA 728X
Associate Professor of Applied Mathematics, 262 Kingsley
A. B., University of Georgia, 1893, A. M., 1894, B. L., 1896; Ph. D., Clark, 1900. Tutor in Mathematics, University of Georgia, 1893-97; Scholar and Fellow in Mathematics, Clark University, 1897-1900, Assistant in Mathematics, Clark University, 1900-01. At Stanford, since 1901.

[1]MORGAN, JEANNETTE CATHERINE, Franklin 7458
Assistant Librarian, Lane Medical Library, 1651 Larkin, SF-sf
A. B., Stanford, 1909.

†MOSER, CHARLES, (El. Hyd. Lab., MWF 10:15) PA 592X
Instructor in Civil Engineering, 651 Homer-p
C. E., Ohio Northern University, 1902; A. B., Stanford, 1908. At Stanford, since 1908.

MOSHER, CLELIA DUEL, (94, MWThF 1-2, T 1-1:30) PA 23
Medical Adviser to Women and Director of Roble Gymnasium, 1094 Emerson-p
A. B., Stanford, 1893, A. M., 1894; M. D., Johns Hopkins, 1900. Assistant in Hygiene and Physical Training, Leland Stanford Junior University, 1893-94, Instructor, 1894-96; Externe in the Johns Hopkins Hospital Dispensary, and Gynecological Assistant in Dr. Kelly's Sanatorium, Baltimore (Md.), 1900-01; Physician, Palo Alto, 1901-10. At Stanford, 1893-96, and since 1910.

†MURRAY, AUGUSTUS TABER, (25, TTh 9:25-10:15) PA 481Y
Professor of Greek, 1019 Bryant
A. B., Haverford, 1885; Ph. D., Johns Hopkins, 1890. Fellow in Johns Hopkins University, 1887-88; Professor of Greek, Earlham College, 1888-90; Student, Universities of Leipzig and Berlin, 1890-91; Professor of Greek, Colorado College, 1891-92. At Stanford, since 1892.

NIELSON, AXEL, (506, 10-12, 2-4) PA 558L
Instructor in Electrical Engineering, 257 Emerson-p
Graduate Darmstadt Technische Hochschule, 1906. With Testing Department, Westinghouse Newark Works, 1907; with Operating Department, Niagara, Lockport and Ontario Power Co., 1907-09; with Engineering Department, Westinghouse Electric Co., East Pittsburg, 1909-11. At Stanford, since 1911.

†O'Neill, Arthur Aloysius, (Isolation Hospital) SF, Mission 238
Clinical Instructor in Medicine, Army and De Haro, SF-sf

M. D., Cooper Medical College, 1891. Assistant Surgeon, Cooper Medical College Clinic, 1893; Assistant in Diseases of the Skin, San Francisco Polyclinic, since 1902; in charge of Isolation and Plague Hospital, 1907-10, of Isolation Hospital, 1912.

Ophüls, Louise, SF, Fillmore 496
Medical Librarian, Lane Medical Library, 2202 California, SF-sf

†Ophüls, William, (411 Clinical and Lab. Bldg.) SF, Fillmore 1680
Professor of Pathology, 114 Walnut, SF-sf

M. D., University of Göttingen, 1895. Assistant at the Pathologic Institute at Göttingen, 1896-97; Professor of Pathology and Bacteriology, University of Missouri, 1897-98; Professor of Pathology and Bacteriology, Cooper Medical College, 1898-1912; Pathologist, Lane Hospital, since 1898. At Stanford, since 1909.

†Palmateer, Theron J., (530, 8:15-12:15, 1:30-4:30)
Instructor in Machine Shop, 171 E. Oxford, Mayfield-m

Apprentice with Sibley & Ware, South Bend (Ind.); Journeyman Machinist, 1896-1905, with R. Hoe & Co., New York, Columbus Machine Works, Columbus, O., Elems Engineering Works, Chicago, Western Gas Engine Works, Mishawaka, Ind., Webster Iron Works, Bakersfield. Cal., R. S. Hunkins, San Jose, Cal. At Stanford, since 1904.

Paris, Etta Louise, PA 1005
Instructor in Roble Gymnasium, 60 Roble Hall

Graduate, Sargent's School for Physical Education, 1908; Student of Mme. Zeniné, and of Gilbert School of Dancing, Boston; Student, Harvard Summer School of Physical Training, 1910; Teacher of Physical Training, Y. W. C. A., Indianapolis (Ind.), 1908-10, Columbia College of Expression, 1910-11, Durant Gymnasium, 1911-12. At Stanford, since 1913.

[Park, Charles V.,
Chief of Loan Desk, Library, New York, N. Y.]

A. B., Stanford, 1909.

†Peirce, George James, (466, M 3:30) PA 436X
Professor of Botany and Plant Physiology, 281 Embarcadero

S. B., Harvard, 1890; A. M. and Ph. D., Leipzig, 1894. Assistant in Botany, Harvard University and Radcliffe College, 1890-92; Parker Fellow in Harvard University, studying in Bonn, Leipzig, and Munich, 1892-94; Assistant Professor of Botany, Indiana University, 1895-97; Acting Professor of Botany, University of Wisconsin, second semester, 1910-11. At Stanford, since 1897.

[Pellissier, Robert Edouard,
Assistant Professor of French, In Europe]

B. S., Harvard, 1904, A. M., 1909, Ph. D., 1913. Shattuck Scholar in Romance Languages, Harvard University, 1910-11. At Stanford, 1909-10, and since 1911.

†Ponzer, Ernest William, (64, 11:15-12)
Assistant Professor of Applied Mathematics, 939 Cowper-p

B. S., Illinois, 1900, M. S., 1903. Instructor in Mathematics, University of Illinois, 1900-09. At Stanford, since 1909.

†POOR, HENRY VARNUM, (314, 1:30-4:30) PA 600K
Assistant Professor of Graphic Art, 1236 Cowper-p

A. B., Stanford, 1910. Student, Slade School, University College, London, 1910, Julien's Academy, Paris, 1911; Instructor, Leland Stanford Junior University, 1911-12, Art Institute, Kansas City, Mo., 1913. At Stanford, 1911-12 and since 1913.

[†PORTER, LANGLEY,
Clinical Professor of Medicine, 240 Stockton, SF-sf]

B. S., Pennsylvania Military College, 1890; M. D., Cooper Medical College, 1896; L. R. C. P., M. R. C. S., England, 1900. Senior Dresser, London Hospital, 1900; Resident Physician, St. Mark's Hospital, London, 1901-02; City Physician, in charge of Contagious Diseases, San Francisco, 1903-08; Assistant Professor of Pediatrics, Cooper Medical College, 1908, Associate Professor, 1909-12. At Stanford, since 1912.

†PRICE, GEORGE CLINTON, (446) PA 1053
Professor of Zoology, 5 Alvarado

B. S., De Pauw, 1890; Ph. D., Stanford, 1897. Student in Biology, Johns Hopkins University, 1890-92; University of Munich, 1895-96. At Stanford, since 1892.

†RENDTORFF, KARL GUSTAV, (32, TTh 9:15) PA 449Y
Associate Professor of German, 318 Lincoln-p

A. M., Stanford, 1894, Ph. D., 1896. Student, University of Giessen, 1884-85, University of Kiel, 1885-91. At Stanford, since 1894.

†RIGDON, RUFUS LEE, (607 St. Paul Bldg., SF, 1-4) SF, Fillmore 2285
Clinical Professor of Surgery, 291 Geary, SF-sf

M. D., Cooper Medical College, 1887. Assistant and Instructor in Genito-Urinary Clinic, Cooper Medical College, 1888-98, Associate Professor of Genito-Urinary Surgery and Chief of Genito-Urinary Clinic, 1898-1908, Professor of Genito-Urinary Surgery, 1908-12. At Stanford, since 1912.

RISLEY, EDITH FRANCES, PA 1044
Assistant to Registrar, 10 Cabrillo

†RIXFORD, EMMET, SF, Franklin 5100
Professor of Surgery, 1795 California, SF-sf

B. S., California, 1887; M. D., Cooper Medical College, 1891. Adjunct Professor of Surgery, Cooper Medical College, 1893-98; Professor, 1898-1912; Visiting Surgeon, Lane Hospital, 1895, City and County Hospital, San Francisco, since 1899. At Stanford, since 1909.

†ROBINSON, EDGAR EUGENE, (235, TTh 11:15-11:45) PA 842L
Assistant Professor of American History, 128 Central ave.

A. B., Wisconsin, 1908, A. M., 1910. Assistant in History, University of Wisconsin, 1908-09, Fellow in American History, 1909-10; Assistant Professor of History, Carleton College, 1910-11. At Stanford, since 1911.

†ROGERS, AUSTIN FLINT, (362, 10:15-11:15) PA 812X
Associate Professor of Mineralogy, 1047 Ramona-p

A. B., Kansas, 1899, A. M., 1900; Ph. D., Columbia, 1902. Assistant in Mineralogy, University of Kansas, 1898-1900; Assistant Geologist, University Geological Survey of Kansas, 1898-1900, 1903; Fellow in Mineralogy, Columbia University, 1900-02, Tutor in Mineralogy, 1902-05. At Stanford, since 1905.

†ROGERS, FREDERICK JOHN, (381)
Associate Professor of Physics, 600 S. 3d st., San Jose

M. S., Cornell, 1891. Instructor in Physics, Cornell University, 1892-1900. At Stanford, since 1900.

†ROSS, PERLEY ASON, (386, WThF 1:30-4:30)
Instructor in Physics, 209 Hanover, College Terrace

A. B., Stanford, 1908, A. M., 1910, Ph. D., 1911. At Stanford, since 1908.

†ROTHGANGER, GEORGE, (126 Stockton, SF, 2-4) SF, Kearny 2206
Clinical Instructor in Surgery, 126 Stockton, SF-sf

A. B., University of California, 1885; M. D., Cooper Medical College, 1888. Medical Officer U. S. N., 1889-1908.

RUSSELL, THERESA PEET (Mrs.), (209a, W 11:15-12:15, 1:30-2:30)
Instructor in English, PA 517K, 1015 Forest Court-p

Ph. B., Iowa, 1895. Teacher in Denison Normal School, 1895-96; Principal, Vilisca High School, 1896-98; Graduate Student at Radcliffe College, 1898-99; Teacher in Anamosa High School, 1899-1900. At Stanford, since 1905.

†RYAN, HARRIS JOSEPH, (505, 9:25-10:25) PA 1075
Professor of Electrical Engineering, 5 Santa Ynez

M. E., Cornell, 1887. With Western Engineering Co., Lincoln, Neb., 1887-88; Instructor in Physics, Cornell University, 1888-89, Assistant Professor of Electrical Engineering, 1889-92, Associate Professor, 1892-95, Professor, 1895-1905; Judge, Board of Awards, World's Fair, Chicago, 1893; U. S. Government Delegate, International Electrical Congress, St. Louis Exposition, 1904. At Stanford, since 1905.

†SANFORD, FERNANDO, (390) PA 646
Professor of Physics, 450 Kingsley

B. S., Carthage College, 1879, M. S., 1882. Student, University of Berlin, 1886-88; Professor of Physical Science, Mt. Morris College, 1879-82; Superintendent of Schools, Ogle County, Ill., 1882-86; Instructor in Physics and Chemistry, Englewood (Ill.), High School, 1888-90; Professor of Physical Science, Lake Forest University, 1890-91. At Stanford, since 1891.

†SCHALLER, WALTER FRANK, (126 Stockton, SF) SF, Pacific 4495
Clinical Assistant Professor of Medicine, 150 W.Clay Park,SF-sf

M. D., Cooper Medical College, 1902. Assistant in Pathology, Cooper Medical College, 1905-06; Assistant Surgeon, U. S. N., 1906-08. At Stanford, since 1911.

[2]†SCOTT, WILLIAM AMASA,
Lecturer in Banking, Berkeley-b

A. B., Rochester, 1886, A. M., 1889; Ph. D., Johns Hopkins, 1892. Professor of History and Political Science, University of South Dakota, 1887-90; Graduate Student and Instructor in History, Johns Hopkins University, 1890-92; Assistant Professor of Political Economy, University of Wisconsin, 1892-93, Associate Professor, 1893-97, Professor, since 1897, Director of School of Commerce, since 1900.

SEARS, HARRY JOHNSON, (6m) PA 393K
Instructor in Bacteriology, 707 Bryant-p

A. B., Stanford, 1911, A. M., 1912. At Stanford, since 1911.

†Sears, Jesse Brundage, (52, 10:15) PA 689Y
Assistant Professor of Education, 1545 Waverley-p

A. B., Stanford, 1909. Instructor in Education, University of Wisconsin, 1909-10; Student, Teachers' College, Columbia University, 1910-11. At Stanford, since 1911.

†Sewall, Edward Cecil, SF, Pacific 5257
Clinical Professor of Surgery, 166 Arguello blvd., SF-sf

A. B., Stanford, 1898; M. D., Cooper Medical College, 1902. Assistant and Instructor in Ophthalmology, Cooper Medical College, 1901-07, Assistant Professor, 1907-09; Student in Freiburg, 1909-10; Associate Professor of Diseases of Eye, Ear, Nose, and Throat, Cooper Medical College, 1910-12. At Stanford, since 1912.

Seward, Samuel Swayze, Jr., (208, MW 12:15, TTh 10:15) PA728X
Assistant Professor of English, 262 Kingsley-p

A. B., Columbia, 1896, A. M., 1897. Scholar in Literature, Columbia University, 1896-97; Assistant in Literature, 1897-99; Student, Oxford University, 1899-1900; Acting Professor of English, University of Nevada, 1907; Assistant Professor of English, University of California, Summer Session, 1907, University of Oregon, Summer Session, 1908. At Stanford, since 1900.

Show, Arley Barthlow, (230, MWF 11:15-12) PA 865
Professor of European History, 127 Cowper

A. B., Doane College, 1882; Graduate, Andover Theological Seminary, 1885; A. M., Doane, 1892. Pastor Congregational Church, Waco, Neb., 1885-87; Professor of History and English Literature, Doane College, 1887-92; Student, University of Leipzig, 1900-01; Lecturer on History of the Early Church, Pacific Theological Seminary, Oakland, 1905-07. At Stanford, since 1892.

[2]Simonson, Stanley Stoddard, (265, 10:15, 1:30-3) PA 1012
Student Adviser, 8 Salvatierra

†Sloan, William Henry, (49c, 1:30-4:30)
Assistant Professor of Chemistry, Alta Mesa, Box 105-p

A. B., Stanford, 1903, A. M., 1904. Student, University of Leipzig, 1904-05; Assistant Chemist, San Francisco Board of Health, 1905-06. At Stanford, 1903-04, and since 1906.

†Slonaker, James Rollin, (481, MTThF 10:30-11) PA 451
Assistant Professor of Physiology, 334 Kingsley-p

B. S., Wisconsin, 1893; Ph. D., Clark, 1896. Fellow in Biology, Clark University, 1893-96; with United States Fish Commission, Woods Holl (Mass.), summer, 1895; Instructor in Zoology, Indiana University, 1896-99, Indiana University Biological Station, 1896-1900; Assistant Professor of Zoology, Indiana University, 1899-1901; Research Assistant in Neurology, University of Chicago, 1901-02, Associate in Neurology, 1902-03. At Stanford, since 1903.

†Smith, Everett Wallace, (205, MT 10:15) PA 1130X
Assistant Professor of English, 10 Alvarado

A. B., Stanford, 1899. At Stanford, since 1910.

†Smith, James Perrin, (329, 1:30-4:30) PA 600Y
Professor of Paleontology, 1335 Cowper-p

A. B., Wofford College, 1884; A. M., Vanderbilt, 1886; Ph. D., Göttingen, 1892. Assistant Geologist and Chemist, Arkansas Geological Survey, 1887-90; Assistant Geologist, U. S. Geological Survey, 1895-1906, Geologist since 1906. At Stanford, since 1892.

SMITH, MARY ELVIRA,
Cataloguer, Library, 352 Fulton-p

Ph. B., Ottawa University, 1905. Student, University of Illinois Library School, 1908-09. At Stanford, since 1914.

SMITH, STANLEY ASTREDO, (245, MWF 11:15) Redwood 285R
Assistant Professor of French, Redwood City

A. B., Stanford, 1903, A. M., 1905. Assistant in Romanic Languages, Leland Stanford Junior University, 1903-04, Instructor, 1904-07; Student, Universities of Paris and Madrid, 1906-07; Instructor in French and Italian, University of Washington, 1907-11; Student, Harvard University, 1911-13, Instructor in Romance Languages, 1912-1; Professor of Romance Languages; Reed College, 1913-14. At Stanford, 1903-07 and since 1914.

[†SNOW, WILLIAM FREEMAN,
Clinical Professor of Hygiene and Public Health, NewYork,N.Y.]

A. B., Stanford, 1896, A. M., 1897; M. D., Cooper Medical College, 1900. Student, Johns Hopkins Medical School, 1901-02; Secretary, California State Board of Health, 1909-13. At Stanford, since 1901.

†SNYDER, JOHN OTTERBEIN, (428, 1:30-4) PA 600L
Associate Professor of Zoology, 1345 Cowper

A. B., Stanford, 1897, A. M., 1899. Assistant U. S. Fish Commission, 1897, 1899, 1904; Naturalist on U. S. S. Albatross engaged in deep sea investigations, 1902, 1906. At Stanford, since 1897.

†SOMERS, GEORGE BURBANK, (Lane Hospital, 2-4) SF, Fillmore 296
Clinical Professor of Gynecology, Clay and Webster, SF-sf

A. B., Harvard, 1886; M. D., Cooper Medical College, 1888. Chief Surgeon, San Francisco Emergency Hospitals, 1891-95; Adjunct to Chair of Gynecology, Cooper Medical College, 1889, Professor of Gynecology, 1901; Gynecologist to Lane Hospital, 1900-12. At Stanford, since 1911.

†SPALDING, ALFRED BAKER, (Lane Hospital) SF, Fillmore 826
Professor of Obstetrics and Gynecology, 2651 Green, SF-sf

A. B., Stanford, 1896; M. D., Columbia, 1900. House Surgeon, General Memorial Hospital, New York, 1900-01; Assistant Resident Physician, Sloane Maternity Hospital, New York, 1901-02; Instructor in Obstetrics, University of California, 1902-05, Assistant Professor, 1905-09, Professor, 1909-12. At Stanford, since 1912.

SPAULDING, HECTOR GALLOWAY, (5, 10:15-12:15, 2:30-3:30) PA 1040K
Assistant Professor of Law, 15 Salvatierra

B. S., Minnesota, 1900; LL. B., Harvard, 1903. Practicing Attorney, New York City, 1903-06, Minneapolis, 1906-12, Chicago, 1912-14.

†STANLEY, EDWARD JOHN, (535, 8:15-12:15, 1:30-4:30) PA 544K
Instructor in Woodworking, 269 Hawthorne-p

Machinist with Pacific Iron Works, San Francisco, 1879, Blacksmith, 1880, Draughtsman, 1881, Pattern Maker, 1883-86; Third Assistant Engineer, Steamer Alabama, 1882; Foreman Pattern Maker, Union Iron Works, San Francisco, 1886-1901, 1906. At Stanford, since 1901.

STARKS, CHLOE LESLEY (MRS.), (Studio, TWThF 1:30-4:30) PA 812Y
Instructor in Graphic Art, 1115 Ramona

At Stanford, since 1899.

†Starks, Edwin Chapin, (423) PA 812Y
Assistant Professor of Zoology, 1115 Ramona

Assistant in United States Bureau of Biological Survey, 1897-99; Curator of the Museum and Assistant Professor of Zoology, University of Washington, 1899-1900. At Stanford, since 1900.

†Stebbins, Horatio Ward, (504, 1:30-4:30) PA 597K
Instructor in Mechanical Engineering, 270 Kellogg-p

A. B., California, 1899; B. S., Massachusetts Institute of Technology, 1902. Assistant to Engineer of Tests, Southern Pacific Railroad Company, 1902-05; Engineer and Estimator, San Francisco Bridge Company, 1905-13. At Stanford, since 1914.

Stephenson, Henry Augustus, (Lane Hospital) SF, West 2101
Instructor in Obstetrics and Gynecology, 2101a Webster, SF-sf

A. B., Randolph-Macon College, 1906; M. D., Johns Hopkins Medical School, 1910. Resident House Officer, Johns Hopkins Hospital, 1910-11, Assistant Resident Obstetrician, 1912-14; Assistant in Obstetrics, Johns Hopkins Medical School, 1911-12, Instructor, 1912-14. At Stanford, since 1914.

†Stillman, John Maxson, (44c, 2-4:30) PA 1048
Vice-President, and Professor of Chemistry, 2 Alvarado

Ph. B., California, 1874, Ph. D., 1885. Assistant in Chemistry, University of California, 1873-75; Student in Chemistry, Strassburg and Würzburg, 1875-76; Instructor in Organic and General Chemistry, University of California, 1876-82; Chemist of the Boston Sugar Refining Company and Superintendent and Chemist of the American Sugar Refining Company, Boston, 1882-91. At Stanford, since 1891.

Stillman, Minna, PA 1048
Acting Chief of Serial Department, Library, 2 Alvarado

A. B., Stanford, 1903. At Stanford, since 1912.

†Stillman, Stanley, (2101 Webster st., 2-4) SF, West 8819
Professor of Surgery, 2336 Broadway, SF-sf

M. D., Cooper Medical College, 1889. Adjunct Professor of Surgery, Cooper Medical College, 1895-98, Professor of Surgery, 1898-1912; Assistant Visiting Surgeon, City and County Hospital, San Francisco, 1891-99, Visiting Surgeon, 1899-1912; Visiting Surgeon, Lane Hospital, 1895-1912. At Stanford, since 1909.

Stoltenberg, Clara S., (484, MW 8-12, MT 1-4:30) PA 1024
Associate Professor of Physiology, 7 Alvarado

A. B., Stanford, 1896, A. M., 1897. At Stanford, since 1896.

†Stolz, Herbert Rowell, (Encina Gym., MTThF 9:30-12) PA 456X
Director of Encina Gymnasium and
Medical Adviser of Men Students, 609 Kingsley

A. B., Stanford, 1911, M. D., 1914. Rhodes Scholar at Oxford, 1910-13. At Stanford, since 1914.

†Stuart, Henry Waldgrave, (40, MW 11:30-12, TTh 2-3) PA 1069
Professor of Philosophy, 8 Alvarado

Ph. B., California, 1893; Ph. D., Chicago, 1900. Teacher, Hollister (Cal.) H. S., 1893-94; Fellow in Political Economy, University of Chicago, 1894-96; Instructor (pro tem) in Economics and Psychology, Washington University, St. Louis, 1896-97; Teacher, Central School,

Oakland (Cal.), 1897-98; Principal, Woodland (Cal.) H. S., 1898-99; Fellow in Philosophy, University of Chicago, 1899-1900; Instructor in Economics and History, Ripon College, 1900-01; Instructor in Philosophy, State University of Iowa, 1901-04; Acting Professor of Philosophy, Lake Forest College, 1904-05, Assistant Professor, 1905-07. At Stanford, since 1907.

SUTLIFF, HELEN BINNINGER, PA 876
Chief Cataloguer, Library, 19 Salvatierra

A. B., Kansas, 1890. Head Cataloguer, University of Kansas Library, 1891-1905; Cataloguer in Columbia University Library, Summer, 1901.

†SWAIN, ROBERT ECKLES, (33c, 2-4) PA 247
Professor of Chemistry, 638 Channing-p

A. B., Stanford, 1899; M. S., Yale, 1901, Ph. D., 1904. Student, Universities of Strassburg and Heidelberg, 1901-02, Yale University, 1909-10. At Stanford, since 1898.

†TERMAN, LEWIS MADISON, (51, MWF 11:15) PA 1178
Associate Professor of Education, 9 Dolores

A. B., Indiana, 1902, A. M., 1903; Ph. D., Clark University, 1905. Fellow in Psychology and Education, Clark University, 1903-05; Principal of High School, San Bernardino (Cal.), 1905-06; Head of Department of Child Study and Pedagogy, Los Angeles State Normal School, 1906-10; Instructor in Education, Indiana University, Summer Session, 1909. At Stanford, since 1910.

†TERRY, MARCUS CLAUDE, PA 395Y
Acting Instructor in Bacteriology, 536 Middlefield-p

M. D., Rush Medical College, 1899. At Stanford, since 1913.

†TOLMAN, CYRUS FISHER, JR., (340, TTh 9:15-10:15) PA 703K
Associate Professor of Economic Geology, 723 Hamilton-p

B. S., Chicago, 1896. Fellow in Geology, University of Chicago, 1907-08; Consulting Economic Geologist, 1899-1913; Professor of Geology, University of Arizona, 1905-06, Professor of Geology and Mining, 1906-12; Territorial Geologist of Arizona, 1910-12. At Stanford, since 1912.

†TOWNLEY, SIDNEY DEAN, (66, TTh 11:15-12) PA 1016
Associate Professor of Applied Mathematics, 33 Salvatierra

B. S., Wisconsin, 1890, M. S., 1892; D. Sc., Michigan, 1897. Fellow in Astronomy, University of Wisconsin, 1890-91, Assistant in Astronomy and Mathematics, 1891-92; Hearst Fellow in Astronomy, University of California (Lick Observatory), 1892-93; Instructor in Astronomy, University of Michigan, 1893-95, 1896-98; Student, Universities of Berlin and Munich, 1895-96; Instructor in Practical Astronomy, University of California, 1898-1903, Lecturer in Astronomy, 1904-07; Astronomer in charge of International Latitude Observatory, 1903-07. At Stanford, since 1907.

†TREAT, PAYSON JACKSON, (215, MWF 11-11:25, TTh 10:15-10:30)
Associate Professor of History, PA 1128, 27 Salvatierra

A. B., Wesleyan, 1900; A. M., Columbia, 1903; Ph. D., Stanford, 1910. Instructor in History, Barnard School, New York City, 1900-03; Graduate Student, Leland Stanford Jr. University, 1903-05; Research Student in Far East, 1906-07; Instructor in Government, Harvard University, 1908-09. At Stanford, since 1905.

[1]Van Sicklen, William John,
Acting Instructor in Chemistry, 347 Ramona-p

A. B., Stanford, 1912, A. M., 1913.

deVries, Louis Peter, (245, TTh 10:15) PA 533
Instructor in Romanic Languages, 603 Waverley

A. M., Wisconsin, 1911, Ph. D., 1913. Student, University of Leyden, 1909; Assistant and Teaching Fellow in Romance Languages, University of Wisconsin, 1910-12. At Stanford, since 1913.

Wander, Paul, (219, MWF 10:15-10:45)
Instructor in Economics, 327 Hamilton-p

Ph. B., Chicago, 1908. Research Fellow, Chicago School of Civics and Philanthropy, 1909-10; Scholar and Fellow in Sociology, University of Chicago, 1910-13. At Stanford, since 1913.

†West, Victor J., (220, MWF 11:15-12) PA 291X
Assistant Professor of Political Science, 376 Addison-p

Ph. B., Chicago, 1905. Instructor in English and Civics, Bradley Polytechnic Institute, 1905-06; Fellow in Political Science, University of Chicago, 1908-10, Assistant in Political Science, 1910; Instructor in Politics, Northwestern University, 1910-13; Assistant Chief of Service, Illinois Progressive Service Board, 1913. At Stanford, since 1913.

†Weymouth, Frank Walter, (484) PA 783K
Assistant Professor of Physiology, 1212 Byron

A. B., Stanford, 1909, A. M., 1911. At Stanford, since 1910.

†Whitaker, Albert Conser, (220, MTWTh 10-10:20) PA 1042X
Professor of Economics, 21 Alvarado

A. B., Stanford, 1899; Ph. D., Columbia, 1904. Scholar in Economics, Columbia University, 1899-1900, Fellow, 1900-01; Student, University of Berlin, 1901-02; Lecturer in Economics and Social Science, Columbia University, 1906-07; Professor of Economics, University of California, Summer Session, 1906, 1911; Acting Professor of Economics, University of Chicago, second half of 1911-12 and 1912-13. At Stanford, since 1902.

†Wilbur, Ray Lyman, (306Clin.andLab.Bldg.,SF,12-12:30) PA 46
Dean of Medical School and Professor of Medicine, 1201 Bryant-p

A. B., Stanford, 1896, A. M., 1897; M. D., Cooper Medical College, 1899. Assistant in Physiology, Leland Stanford Junior University, 1894-96, Instructor, 1896-97, Assistant Professor, 1900-03; Lecturer and Demonstrator in Physiology, Cooper Medical College, 1899-1900. At Stanford 1894-97, 1900-03, and since 1909.

†Wildman, Murray Shipley, (223, 2-4) PA 1179
Professor of Economics, 37 Salvatierra

A. B., Earlham, 1893; Ph. D., Chicago, 1904. Professor of History and Economics, Central College (Mo.), 1904-05; Instructor in Economics, University of Missouri, 1905-06, Assistant Professor, 1906-08; Acting Assistant Professor, University of Chicago, Summer Quarter, 1909; Assistant Professor of Economics and Commerce, Northwestern University, 1909-11, Professor, 1911-12. At Stanford, since 1912.

Williams, J. Harold, (43) PA 1109
Buckel Fellow in Education, 11 Salvatierra

A. B., Stanford, 1913, A. M., 1914.

WILSON, GLAUCE M.,
Cataloguer, Lane Library, 1050 Post, SF-sf

†WING, CHARLES BENJAMIN, (278, 11:15-11:45) PA 449K
Professor of Structural Engineering, 345 Lincoln

C. E., Cornell, 1886. Fellow in Civil Engineering, Cornell University, 1886-87, Instructor, 1887-90, Assistant Professor, 1890-91; Engineer, Pompton (N. J.) Powder Co., 1887, Phoenix Powder Co., Farmingdale, N. Y., 1888; Assistant Engineer, Berlin (Conn.) Iron Bridge Co., 1889-90; Professor of Bridge and Hydraulic Engineering, University of Wisconsin, 1891-92. At Stanford, since 1892.

†WINTERMUTE, GEORGE PRESTON, (Shreve Bldg., 10) Berkeley 5933
Clinical Instructor in Surgery, 227 Tunnel road, Berkeley-b

M. D., Jefferson Medical College, 1893. At Stanford, since 1912.

WOLFSOHN, JULIAN MAST, (2502 Fillmore, 1:30-4) SF, Fillmore 1526
Clinical Instructor in Medicine, 2502 Fillmore, SF-sf

A. B., University of California, 1905, M. S., 1907; M. D., Johns Hopkins University Medical School, 1911. Research Assistant, Herzstein Laboratory, University of California, 1906-07; Medical House Officer, Johns Hopkins Hospital, 1911-12.

WOODRUFF, MARY JEANETTE,
Shelf Lister, Library, Mountain View-m

†WOODWARD, FREDERIC CAMPBELL, (3, 2:30-3) PA 1062
Professor of Law, 21 Salvatierra

LL. B., Cornell, 1894, LL. M., 1895; A. M., Dickinson College, 1902. Attorney at Law, practicing in New York City, 1895-98; Professor of Law, Dickinson College, 1898-1902; Professor of Law, Northwestern University, 1902-07; Professor of Law, University of Chicago, Summer Quarter, 1908. At Stanford, since 1907.

†WYNEKEN, FRIEDRICH ALEXANDER, (35, M 11:15) PA 404K
Instructor in German, 576 Lincoln-p

B. L., University of California, 1906, M. L., 1907, Ph. D., 1912. Assistant in German, University of California, 1909-12, and in Summer Sessions of 1910 and 1911. At Stanford, since 1912.

†YERINGTON, HENRY HERBERT, (Schroth Bldg., SF, 2-4) SF, Pac. 5464
Clinical Assistant Professor of Medicine, 240 Stockton, SF-sf

M. D., College of Physicians and Surgeons, New York, 1908. Student, Stanford University, 1900-04. Instructor in Pediatrics, Cooper Medical College, 1910-11. At Stanford, since 1913.

YOUNG, HAYES WILSON, (553, 1:30-4:30) PA 1013
Instructor in Metallurgy, 109 Encina

A. B., Stanford, 1911, Engineer, 1912. At Stanford, since 1911.

†YOUNG, STEWART WOODFORD, (46c, 9:30-12, 2-5) PA 390L
Professor of Physical Chemistry, Bryant and Tennyson-p

B. S., Cornell, 1890. Assistant in Chemistry, Cornell University, 1890-91; Instructor in Chemistry, Swarthmore College, 1891-93. At Stanford, since 1893.

DEPARTMENTAL AND OTHER ASSISTANTS

[1]Adams, Robert, Gemmell, Civil Engineering, 11 Lasuen

Adler, Howard Felix, Medicine, 1590 Broadway, SF-sf

B. S., California, 1904; M. D., Harvard, 1908. German Hospital, New York City, 1908-11.

Allcutt, Chester Thorne, Applied Mathematics, 4 Lasuen

Avery, Harold Tolman, Civil Engineering and App. Math., 142 Encina

Bailey, Margery, English, 207 Hawthorne-p

A. B., Stanford, 1914.

†Banham, Frank Daniel, Foreman Mechanician Shop, 826 Waverley-p

Banks, William Henry, Medicine, 4402 California, SF-sf

M. D., Cooper Medical College, 1904. Interne, Lane Hospital, 1904-05; Assistant in Medicine, Cooper Medical Dispensary, 1909-11.

Barkan, Hans, Surgery, 240 Stockton, SF-sf

A. B., Stanford, 1905; M. D., Harvard Medical School, 1910. Assistant in Pathology, Harvard Medical School, 1910-11, Instructor, 1911-12; Pathologist to the Long Island Hospital and Boston City Almshouse, 1911-12.

Barker, Anna Ruth, Romanic Languages, 1 Salvatierra

A. B., Stanford, 1914.

Beasley, Shadworth O., Obstetrics and Gynecology, 240 Stockton, SF-sf

M. D., Cooper Medical College, 1897. Acting Assistant Surgeon, U. S. A., 1898; 1st Lieutenant and Assistant Surgeon, U. S. Vol., 1898; Captain and Assistant Surgeon, U. S. Vol., 1900; Major and Surgeon, U. S. Vol., 1901-03; Assistant in Anatomy, Cooper Medical College, 1904-06, Assistant in Surgical Clinic, 1903-06, Assistant, Genito-Urinary Clinic, 1909-11.

Beaver, George Lovell, Appl. Math. and Elec. Eng., 475 Forest-p

Behlow, William Wallace, Medicine, 233 Post, SF-sf

A. B., Stanford, 1907; M. D., Harvard, 1912. Graduate Student, University of California, 1907; Medical House Officer, Boston City Hospital, 1912-14; Assistant Visiting Physician, San Francisco Hospital, since 1914.

Bell, May Knight (Mrs.), Entomology, 532 Homer-p

Bentley, Edith Naomi, Education Library, 551 Lytton-p

Bentley, Georgia Helen, Botany, 635 Homer-p

Best, Neil Orrin, Encina Gymnasium, 58 Encina

A. B., Stanford, 1915.

[1]Blodgett, Ward Belnap, Civil Engineering, 191 Encina

Boezinger, Agnes Sophie, Library, 176 Bryant-p

Bol, Cornelius, Physics, College Terrace

B. S., Montana, 1914.

[2]Bond, Rufus Gallatin, Mechanician Shop, 420 Hamilton-p

†Boyd, Edwin Forrest, Physiology, 318 Waverley-p

Brekke, Mabel Adella, Greek, Los Altos-1

A. B., Stanford, 1913, A. M., 1914.

Bruce, Starr Lewis, Economics, 67 Encina
Bruce, Walter Johnson, Chemistry, Redwood City, Box 381, P.A.-p
Burrows, Harold Herbert, Bacteriology, 55 Encina
†Burrows, John Robert, Surgery, Broadway and 19th St., Oakland-o
M. D., Cooper Medical College, 1906. Assistant in Ophthalmology, Cooper Medical College, 1909.
Caldwell, George W., Surgery, Broadway and 17th, SF-sf
M. D., University of Denver, 1891.
Card, Thomas Adams, Physiology, 764 Channing-p
Carlton, Dave Pierce, Geology and Mining, 15 Alvarado
Case, Walter Mackay, History, 5 Cabrillo
A. B., College of the Pacific, 1914.
Casey, Elizabeth, Romanic Languages, 364 Kingsley
Ph. B., Chicago, 1906.
[2]Castle, Otis Henry, History, 26 Lasuen
A. B., Stanford, 1914.
Caton, Candace Orene, History, 4 Roble
A. B., Stanford, 1914.
[3]Chapman, Herbert Samuel, Bacteriology, Encina
A. B., Stanford, 1914.
Chappel, Donald Maurice, Economics, 11 Salvatierra
Chislett, William, Jr., Latin, 20 Lasuen
A. B., Stanford, 1910, A. M., 1911.
[2]Clark, Ada Morse (Mrs.), Secretary to Chancellor, 531 Cowper-p
Clark, Alvan Witcombe, Economics, 4 Salvatierra
Clark, Laura Cornelia, Mathematics, 81 Roble
Clark, Paul Archibald, Economics, 7 Alvarado
Clute, Walter Stillwell, English, 28 Lasuen
Coe, Harry Carson, Bacteriology, Meridian and Douglas, SJ-sj
Cooke, John Daniel, Greek, 310 Waverley-p
A. B., Stanford, 1914.
Cosgrave, Millicent Mary, Neurology, 2619 Octavia, SF-sf
M. D., Cooper Medical College, 1902; Assistant, Children's Clinic, Cooper Medical College, 1904-08; Assistant, Medical Clinic, San Francisco Polyclinic, 1904-13; Chief, Gynecological Clinic, San Francisco Fruit and Flower Mission, 1906-13.
Cox, Joel Bean, Mathematics and Civil Engineering, 51 Encina
A. B., Stanford, 1914.
Dachner, Richard R. H., Electrical Engineering, 2 Lasuen
[2]Davis, Charles Skinner, Law, Acacia
A. B., Stanford, 1914.
Davis, Margaret, Library, 20 Alvarado
†Dillon, James Root, Neurology, 209 Post, SF-sf
A. B., Stanford University, 1908; M. D., Cooper Medical College, 1912.

[2]Dodd, John McKee, Chemistry, 405 Emerson-p
A. B., Stanford, 1914.

Dolley, Frank Stephen, Surgery, 1791 Pine, SF-sf
A. B., Pomona, 1907.

Draper, Roscoe Leroy, Physiology, 94 Encina
A. B., Stanford, 1913.

Duff, Marcella Carmelita, Cataloguer, Library, Menlo Park-m
A. B., Stanford, 1911.

Dugan, Ethel Ray, History, 17 Lasuen
A. B. Smith, 1910.

Dunlap, David Porter, Library, 117 Encina

Dutton, Earl Treff, Encina Gymnasium, 36 Encina

[1]Eigenmann, Charlotte Elizabeth, Roble, 40 Roble

†Elsey, Howard McKee, Chemistry, 606 Cowper-p
A. B., Stanford, 1914.

[1]Emerson, James Gordon, Law, 190 Encina
B. S., Iowa State College, 1912; J. D., Stanford, 1915.

English, Henry Rowland, History, 35 Encina

[2]Evans, Harry Fred, Electrical Engineering, 2 Lasuen

Felt, Tom B., Mechanical Engineering, Acacia

[2]Ferris, Gordon Floyd, Bionomics, 194 Encina

Finney, Florella Kelso, Physics, 324 Emerson-p
A. B., Stanford, 1914.

Fisher, Arthur L., Surgery, 126 Stockton, SF-sf
B. S., California, 1896; M. D., Johns Hopkins, 1900. Resident House Officer, John Hopkins Hospital, 1900-01; Fellow, Rockefeller Institute for Medical Research, 1901-02; Assistant Visiting Surgeon, Mt. Zion Hospital, San Francisco, 1902-08.

[2]Fletcher, William Daly, Civil Engineering, 109 Encina

Flügel, Felix, Economics, 1153 Cowper-p
A. B., Stanford, 1914.

[2]Flügel, Hildegarde, Library, 1153 Cowper-p

Gale, Helen Avery, Reference Department, Library, 940 Waverley-p

[1]Gearhart, William Edgar, Stenographer, Law, Acacia
A. B., Iowa, 1913.

Gedney, Frederick Mears, Surgery, 3013 Fillmore, SF-sf
M. D., Cooper Medical College, 1903.

Gilbert, Carl Hughes, Law, 64 Encina
A. B., Stanford, 1913.

Gilliland, Otho James, Botany, 520 Everett

Goddard, Win Rawdon, Chemistry, 1 Alvarado
A. B., Stanford, 1914.

Green, Aaron Samuel, Surgery, 210 Post, SF-sf
M. D., Denver and Gross College of Medicine, 1908.

[2]Green, Boynton Morris, Mechanical Engineering, 70 Encina
A. B., Stanford, 1914.

Green, Louis David, Surgery, 210 Post, SF-sf
M. D., Gross College of Medicine, Denver, 1909. Interne and Resident Physician, Southern Pacific General Hospital, San Francisco, 1909-11; Assistant, Nose and Throat Clinic, Cooper Medical College, 1911-12.

†Gunn, Herbert, Medicine, 240 Stockton, SF-sf
M. D., Cooper Medical College, 1895.

Haas, Sylvan Lewis, Surgery, 2299 Sacramento, SF-sf
B. S., University of California, 1904; M. D., Johns Hopkins Medical School, 1908.

Hadden, Fannie, Secretary Committee on Public Health, 1157Ramona-p

[1]Hager, John Manfred, Economics, 36 Encina
A. B., Stanford, 1915.

†Hall, George Joyce, Medicine, Yreka-y
A. B., Santa Clara College, 1908; M. D., Cooper Medical College, 1912.

Hamaker, Rex Gerome, Encina Gymnasium, 38 Lasuen

Hammond, Philo Fay, Physics and Mathematics, 467 Everett-p
A. B., Washington, 1907.

[2]Hanna, John Alford, History, 2 Lasuen
A. B., Dartmouth, 1914.

Hanna, Maynard Basil, President's Office, Encina

Harbour, Nina, History, 35 Roble
A. B., Stanford, 1915.

Haub, Alma Anita, Physics, 59 Roble
A. B., Stanford, 1914.

[2]Haven, Maude Noble, Medicine, 611 Baker, SF-sf
Ph. B., California, 1894; M. D., Cooper Medical College, 1900. Assistant in Women's Clinic, Children's Hospital, San Francisco, 1901-04.

†Havens, Myrtil Cole, Mechanician, Machine Shop, 727 Cowper-p

Hawkins, Effie Izah, Education, 313 Waverley-p
A. B., Stanford, 1914.

Heald, Ethel Grace, Serial Department, Library, 558 Hawthorne-p

Hettinger, Albert John, Jr., Economics, Faculty Club

Hodges, George Charles, History, 453 Channing-p

Hogg, Elton Marion, Chemistry, Saratoga-s
A. B., College of the Pacific, 1912; A. M., Stanford, 1913.

Hollmann, Esther Karleene, Registrar's Office, Madrono

Hubbs, Carl L., Zoology, 144 Encina

Huffaker, Anthony, Medicine, 1739 Pine, SF-sf
M. D., Cooper Medical College, 1890.

[2]Hunt, Marcie, Graphic Art, 3 Salvatierra

Huskey, Anne (Mrs.), President's Office, 707 Bryant

†Hutchings, Robert K., Surgery, Post and Grant Ave., SF-sf
M. D., Ohio Medical College, University of Cincinnati, 1891. Interne, Cincinnati City Hospital, 1891-93.

Hutchinson, Arthur John, Encina Gymnasium, Phi Kappa Psi

†Hyde, Clarence Elmer, Surgery, 240 Stockton, SF-sf
A. B., Stanford, 1905; M. D., Columbia, 1907.

[2]Inman, Thomas G., Medicine, 240 Stockton, SF-sf

Irwin, Clifton Minto, Civil Engineering, 12 Salvatierra

[1]Johnson, Carl Rodgers, Civil Engineering, 11 Encina

Keatinge, Annie Harriett, Lane Medical Library, 1710 Pacific, SF-sf

Keen, Sadie, Stenographer, Geology and Mining, 1221 Webster-p

[1]Kellar, Herbert Anthony, History, 915 Channing-p
A. B., Chicago, 1909.

Kenney, William, Medicine, 135 Stockton, SF-sf

Kimberlin, Lester O., Surgery, 391 Sutter, SF-sf
M. D., Cooper Medical College, 1911. Interne, Lane Hospital, 1911-12, Senior Interne, Obstetrics and Gynecology, 1912-13.

[1]King, Marion Reginald, Physiology, 2345 Union St., SF-sf
A. B., Stanford, 1914.

Kneass, Edward Daniel, Encina Gymnasium, 6 Lasuen

Knollin, Ernesto Ray, Encina Gymnasium, 29 Encina
A. B., Stanford, 1914.

Knox, Nellie D., History, 751 Channing-p

Kreps, Helen Katharine, Filing Clerk, Library, 1129 Emerson-p

Lee, Gladys Margaret, Romanic Languages, 1 Salvatierra
A. B., Stanford, 1914.

Lee, Russell Van Arsdale, Bacteriology, 635 Bryant-p

Leland, Percy Earl, Encina Gymnasium, 16 Lasuen

Levy, Paul Mark, Chemistry, 30 Encina

Lewis, Howard Wesley, Electrical Engineering, 132 Encina

Logan, William Anthony, Law, Mayfield-m
A. B., Stanford, 1914.

Lund, Ralph S., Lane Library, 2884 Bush, SF-sf

†Lyman, George Dunlap, Pediatrics, 240 Stockton, SF-sf
A. B., Stanford, 1905; M. D., Columbia, 1909.

Lyon, Joseph William, Memorial Church, Mayfield-m

McBean, Anna G., Medicine, 2057 Devisadero, SF-sf

McCord, Emily E., Economics, 7 Lasuen

†McNaught, Harvard Young, Surgery, 135 Stockton, SF-sf
M. D. C. M., Trinity University, 1897. Fellow by Examination, Trinity Medical College, 1897; Assistant, Ear, Nose, and Throat Clinic, Cooper Medical College, 1911-12.

Marble, Russell Price, Registrar's Office, 339 Emerson-p

[2]Maurer, Loche Morton, Economics, 16 Lasuen
A. B., Stanford, 1914.
Mayer, Kenneth, President's Office, Mayfield
†Mead, Louis Durant, Pediatrics, 135 Stockton, SF-sf
B. S., California, 1898: A. M., M. D., Columbia University, 1902.
†Melom, Carl Marcus, Romanic Languages, College Terrace
B. L., Minnesota, 1901, A. M., 1902.
[1]Mittenthal, Norman Jerome, Electrical Engineering, 13 Encina
Montgomery, William O., Surgery, 1469 Vallejo, SF-sf
†Moore, Harold Staats, Surgery, 2758 Union, SF-sf
M. D., Medical College of Indiana, Purdue University, 1898. Assistant, Indianapolis City Clinic; Assistant Surgeon, U. S. A., 1898-1901; Assistant, Ear, Nose, and Throat Clinic, Cooper Medical College, 1910.
Moore, William Homer, Bacteriology, 94 Encina
Morosco, Albert Harold, Loan Desk, Library, 26 Lasuen
Mulock, Fred S., Physics and Electrical Engineering, 156 Encina
†Munger, Arthur Lee, Obstetrics and Gynecology, Lane Hosp., SF-sf
A. B., Stanford, 1910, M. D., 1913.
Neth, Lena Rose, Library, 8 Lasuen
Newcomer, Mabel, Economics and Library, 1015 Forest-p
A. B., Stanford, 1913, A. M., 1914.
Nissen, Herman Francis, Asst. Custodian Hyd. Lab., 356 Kingsley-p
[2]Nix, Armin William, Library, 93 Encina
Nusbaum, Emanuel Rhodes, Greek, 542 Cowper-p
A. B., Stanford, 1914, A. M., 1915.
Ober, Florence Sophia, Stenographer, History, Los Altos
Oberlé, Eugene John, Romanic Languages, 611 Bryant
Odenheimer, Frances June, Library, 230 Emerson-p
A. B., Stanford, 1914.
Oliver, Jean R., Pathology and Lane Library, 1926 Octavia, SF-sf
Olsen, John, Graphic Art, 321 Fulton-p
Ostenberg, Zeno, Pharmacology, Lane Hospital, SF-sf
A. B., Stanford, 1913, A. M., 1914.
[1]Owen, Ethel, Bacteriology, 2418 Washington, SF-sf
A. B., Stanford, 1914.
Owen, Richard Lewis, Encina Gymnasium, 151 Addison-p
Owens, William Brownlee, Law and English, 26 Lasuen
Paulson, Myrtle Nina, Botany, 33 Roble
A. B., Stanford, 1914.
†Peck, Allan Earle, Surgery, 1401 Emerson-p
A. B., Stanford, 1898; M. D., Cooper Medical College, 1900.
Perham, Philip D. B., Loan Desk, Library, 335 Melville-p
[2]Poindexter, Emily Virginia, Greek, 36 Lasuen

Price, Francis, Law, 181 Encina
A. B., Stanford, 1914.
†Pyle, Kenneth, Geology and Mining, 57 Encina
Ramsey, Agnes C., (Mrs.), Mimeographer, 20 Lasuen
Rathbun, Harry John, Applied Mathematics, 42 Encina
[2]Reynolds, John Lynn, Mechanical Engineering, 630 Lincoln
A. B., Stanford, 1912.
Reynolds, Lloyd Robinson, Physiology, 455 University-p
Richards, Dexter Newell, Surgery, 475 Geary, SF-sf
A. B., Stanford, 1907; M. D., Harvard Medical School, 1911. Assistant Surgeon, St. Luke's Hospital, San Francisco, since 1913.
[1]Richardson, James Kemke, Civil Engineering, 18 Lasuen
Ridder, Harold Ferdinand, Mechanical Engineering, 1 Alvarado
Risling, Ernest, Anatomy, 935 Webster-p
[2]Rogers, Alice Marie, Economics, 32 Lasuen
Rouiller, Jeanne Rose (Mrs.), Romanic Languages, 431 Channing-p
Rumwell, Melville E., Surgery, 240 Stockton, SF-sf
M. D., Cooper Medical College, 1895.
Russell, Frank Marion, Economics, 358½ Homer-p
A. B., Stanford, 1912, A. M., 1913.
Sampson, Ruth Adele, English, 1080 Emerson-p
A. B., Stanford, 1912.
Schnell, Delis, Mechanical Engineering, Mayfield-m
Schnetzler, Stanley Stolz, President's Office, 252 University
Scholz, Carl Eugene, Electrical Engineering, 130 Encina
[1]Schwartz, Irving H., Dispensary, 2233 Webster, SF-sf
Scott, Ewing Carruth, Library, 1057 Ramona-p
Scott, Thomas Benjamin, Storekeeper, Chemistry Lab., Mayfield-m
†Sewall, Chester Durbin, Medicine, 240 Stockton, SF-sf
M. D., Cooper Medical College, 1906.
Shamberger, Jacob Casper, Latin, 412 Cowper-p
A. B., Western Maryland College, 1904; A. M., Stanford, 1914.
[1]Shamada, Teizo Kainan, Anatomy, Encina
Shone, Charles Gladwyn, Asst. Custodian, Mech. Lab., 356 Kingsley-p
Skolfield, William King, Applied Mathematics, 145 Encina
[1]Smith, Felita Mary, History, 51 Roble
A. B., Stanford, 1912.
Smith, Harold Webster, Library, 21 Salvatierra
Somers, Howard, Surgery, 135 Stockton, SF-sf
M. D., Cooper Medical College, 1904; B. S., University of California, 1909. Assistant in Genito-Urinary Surgery, Johns Hopkins University Medical School, 1909-10; Assistant in Surgery, University of Berlin, 1910-11, San Francisco Polyclinic, 1911-12.
[2]Spalding, Helen Godfrey, Roble, 8 Roble

Spence, Homer Roberts, Law, 12 Salvatierra
A. B., Stanford, 1913.
Stanley, Herbert Mark, Mechanical Engineering, 269 Hawthorne-p
Stearn, Allen Edwin, Chemistry, 80 Encina
Stearns, Edna Adele, History, 7 Lasuen
A. B., Stanford, 1914.
Stevick, Anna Laura, English, 601 Melville-p
A. B., Stanford, 1913.
†Stillson, Frank Leonard, Encina Gymnasium, 451 Ruthven-p
Stinchfield, Roxana Judkins, Botany, 327 Emerson-p
Stuart, Archer Bell, Encina Gymnasium, 621 Gilman-p
Swan, Guy Carlton, Chemistry, 139 Encina
A. B., Stanford, 1913.
Tag, Tessie, Stenographic Assistant, 87 Roble
[1]Taylor, Arthur, Civil Engineering, 6 Lasuen
A. B., Stanford, 1912.
[1]Thoburn, James Harold, Encina Gymnasium, 6 Lasuen
Todd, Hanna Lillian, Library, 557 Hamilton-p
Trimble, Fred Matlack, Entomology, 5 Lasuen
B. S., Pennsylvania State College, 1914.
True, Helen Ella, Cataloguer, Library, Los Gatos-l
Tsuzaki, Mitsuji, Economics, 733 Ramona
A. B., Stanford, 1914.
Tulloch, Leslie Sutherland, Zoology, 5 Salvatierra
A. B., Stanford, 1914.
Tupper, Roland Beatty, Medicine, 297 Church, SF-sf
M. D., Cooper Medical College, 1910. Assistant Visiting Physician, St. Luke's Hospital, 1912: Assistant in Pediatrics, Cooper Medical College, 1912.
†Uhlman, Walter, Engineer, Mechanical Lab., 230 Emerson-p
Vail, Arthur Jacob, Civil Engineering, 333 Channing-p
Vandervoort, Lynnette, Psychology, 12 Lasuen
Vaughan, Marion Melinda, History, 32 Lasuen
Vigars, Ernest Powell, Civil Eng. and Appl. Math., 15 Alvarado
Watanabe, Walter K., Pharmacology, Sacramento & Webster, SF-sf
A. B., Stanford, 1914.
Wenzel, Robert Nicholas, Civil Eng. and Appl. Math., 51 Encina
Wheeler, Francis Foss, Library, 193 Encina
[2]White, Hazel May, Bacteriology, 32 Lasuen
White, Walter Thessing, President's Office, Tennyson & Bryant
Widell, Bernot Alexis, Electrical Engineering, Encina
Wiggins, John Henry, Encina Gymnasium, 29 Encina
A. B., Stanford, 1911.
Wilkie, Lonnie Houston, Library, 704 Bryant

[2]Wood, Jessie Ida, Botany, Mayfield-m

†Woolsey, Chester Howard, Surgery, 350 Post, SF-sf

B. S., University of California, 1895, M. D., 1901. Assistant to Chair of Clinical Medicine, University of California, 1902-06; State Bacteriologist, California, 1903-04; Assistant to Chair of Genito-Urinary Surgery, Cooper Medical College, 1911-12.

Wyman, Eleanor McKee, Greek, 10 Salvatierra

A. B., Stanford, 1914.

[2]Yager, John Edgar, Mechanical Engineering, 170 Encina

A. B., Stanford, 1915.

Young, Celeste Langdon, History, 12 Lasuen

Zimmerman, Howard K., Law 59 Encina

A. B., Oregon, 1913.

Ziser, George J., Chemistry, 185 Encina

BUSINESS ADMINISTRATION

Allen, Everett E., Foreman Plumber.....Stanford Park

Ames, Edwin M., Voucher Clerk.....San Anselmo

Blodgett, David P., Bookkeeper.....105 Noe st., San Francisco

Carpenter, W. Harold, Foreman Corporation Yard....Cooksey Lodge

Flood, M. H., Storekeeper.....2034 Lake st., San Francisco

Forbes, Belle Brodie (Mrs.), Matron.....Roble Hall

Frehe, Fred W., Foreman of Grounds.....Stanford University

Funke, Phillip K., Purchasing Agent.....2124 Central ave., Alameda

Hewston, J. Ellis, General Superintendent.....Stanford University

Johnson, Marshall, Telephone Operator.....268 Sanchez st., S. F.

McDonnell, J. Walter, Foreman Electrician.....Palo Alto-p

Molony, David, Farm Foreman.....Stanford University

Monasch, David, Office Manager.....246 Presidio ave., San Francisco

Peterson, Harry C., Curator Museum.....672 Homer-p

Charter Member of the American Association of Museums; Special Commissioner to Southern California for California Historic Landmarks League, 1913, Member of Board of Directors, 1913-14; President, Palo Alto Historical Association, 1913-14.

Quinn, Albert A., Clerk Encina.....929 Webster-p

Reichert, Marie E., Stenographer.....1140 Sutter st., San Francisco

Rich, Samuel H., Cashier.....3180 Washington st., San Francisco

Schilling, John C., Foreman Carpenter.....730 Bryant

Slack, Ellard L., Superintendent's Office.....Cooksey Lodge

Smith, George B., Foreman Painter.....751 Ramona-p

Stow, Vanderlynn, Treas. and Business Mgr.....2900 Broadway, S. F.

Usinger, Charles F., Auditor.....San Jose

Wariner, Orvill S., Superintendent of Construction.....Menlo Park

Waterman, Edward H., Chief Engineer.....567 Lytton, Palo Alto

ORGANIZATION

Foundation

THE Leland Stanford Junior University was established under an Act of the Legislature, approved March 9, 1885, entitled "An Act to advance learning, the arts and sciences, and to promote the public welfare by providing for the conveyance, holding, and protection of property, and the creation of trusts for the founding, endowment, erection, and maintenance within this State of universities, colleges, schools, seminaries of learning, mechanical institutes, museums, and galleries of art." The Founding Grant, executed November 11, 1885, was made public at a meeting of the Board of Trustees, held in San Francisco, November 14, 1885. The cornerstone of the inner quadrangle was laid May 14, 1887, and the institution opened to students October 1, 1891.

Nature, Object, and Purposes of the University

'We, Leland Stanford and Jane Lathrop Stanford, husband and wife, grantors, desiring to promote the public welfare by founding, endowing, and having maintained upon our estate known as the Palo Alto Farm, and situated in the Counties of San Mateo and Santa Clara, State of California, United States of America, a university for both sexes, with the colleges, schools, seminaries of learning, mechanical institutes, museums, galleries of art, and all other things necessary and appropriate to a university of high degree, to that end, and for that purpose, do hereby grant,' etc.

'And that the trust hereby created may be executed according to the wishes of the grantors and each of them, they do hereby designate the Nature, Object, and Purposes of the Institution hereby founded, to be:

'Its nature, that of a University, with such seminaries of learning as shall make it of the highest grade, including mechanical institutes, museums, galleries of art, laboratories, and conservatories, together with all things necessary for the study of agriculture in all its branches, and for mechanical training, and the studies and exercises directed to the cultivation and enlargement of the mind;

'Its object, to qualify students for personal success and direct usefulness in life;

'And its purpose, to promote the public welfare by exercising an influence in behalf of humanity and civilization, teaching the blessings of liberty regulated by law, and inculcating love and reverence for the great principles of government as derived from the inalienable rights of man to life, liberty, and the pursuit of happiness.'

Name of the University

'Since the idea of establishing an institution of this kind for the benefit of mankind, came directly and largely from our son and only child, Leland, and in the belief that had he been spared to advise as to the disposition of our estate, he would have desired the devotion of a large portion thereof to this purpose, we will that for all time to come the institution hereby founded shall bear his name, and shall be known as The Leland Stanford Junior University.'

Management and Control of the University

The general management and control of the institution is vested in a Board of Trustees originally numbering twenty-four, and chosen for life. By the Amending Act of May 31, 1899, the number of trustees is reduced to fifteen, with future elections for a term of ten years. The Board of Trustees fills all vacancies.

Powers and Duties of the Trustees

'The Trustees shall have power and it shall be their duty:

'To appoint a President of the University, who shall not be one of their number, and to remove him at will.

'To fix the salaries of the President, Professors, and Teachers, and to fix them at such rates as will secure to the University the services of men of the very highest attainments.

'To establish and maintain at such University an educational system which will, if followed, fit the graduate for some useful pursuit, and to this end to cause the pupils, as early as may be, to declare the particular calling which in life they may desire to pursue. . . .

'To prohibit sectarian instruction, but to have taught in the University the immortality of the soul, the existence of an all-wise and benevolent Creator, and that obedience to His laws is the highest duty of man.

'To have taught in the University the right and advantages of association and coöperation.

'To afford equal facilities and give equal advantages in the University to both sexes.

'To maintain on the Palo Alto estate a farm for instruction in agriculture in all its branches.

'The Board of Trustees shall annually report all their proceedings to the person who for the time being shall fill the office of Governor of the State of California, and shall accompany such report with a full account of their financial operations for the preceding year, and with a statement of the financial affairs of the institution.'

Powers and Duties of the President

'It shall be the duty of the Trustees to give to the President of the University the following powers:

'To prescribe the duties of the professors and teachers; to remove professors and teachers at will; to prescribe and enforce the course of study and the mode and manner of teaching; such other powers as will enable him to control the educational part of the University to such an extent that he may justly be held responsible for the course of study therein and for the good conduct and capacity of the professors and teachers.'

Amendments to the Founding Grant

A clause in the Founding Grant reserved to the grantors the right to alter, amend, or modify the terms and conditions of the grant in important particulars. Under this provision amendments were made by Mrs. Stanford, June 1, 1897; May 31, 1899; March 28, 1902; October 3, 1902; June 1, 1903. These amendments were concerned mainly with matters of detail, but provided also "that the number of women attending the University as students shall at no time ever exceed five hundred."

An Amendment to the Constitution of the State of California, adopted November 6, 1900, "permitted, approved, and confirmed all the trusts, estates, terms, and conditions" of the Founding Grant and of all the deeds, conveyances, and other instruments made and delivered before that date, and authorized the Legislature, under certain conditions, to exempt the property of the University from taxation. Article 13 of the State Constitution, as amended November 3, 1914, exempts from taxation the buildings, grounds (not exceeding one hundred acres), equipment, securities, and income, used exclusively for educational purposes, of any educational institution of collegiate grade not conducted for profit.

The University Faculty

'The Trustees shall constitute the President and professors the faculty of the University, and shall prescribe their powers and duties as such.'

Under the Articles of Organization, adopted by the Board of Trustees March 31, 1904, the power and authority of the University Faculty is vested in the Academic Council, consisting of the President of the University, the professors and associate professors, the librarian, the registrar, such assistant professors as have been upon the roll of the faculty for three years, whether as assistant professors or instructors, and such other officers of the University or members of the teaching staff as the Academic Council may, with the assent of the Board of Trustees, determine.

All general University regulations, statutes, and rules as to matters within the province of the faculty, must be initiated in and passed by the Academic Council. The Academic Council has general power and responsibility for the internal administration of the University, subject to express provisions contained in the Articles of Organization respecting the methods of exercising such powers through the President of the University, the Advisory Board, the Standing Committees, and the Department Faculties.

The Advisory Board consists of nine members of the rank of professor, one from each of the five department groups, and four chosen without reference to groups. All executive acts of general importance, such as recommendations for appointments, promotions, and dismissals, for the creation of new departments or chairs, etc., must be submitted by the President to the Advisory Board. The Advisory Board is also privileged to make such recommendations to the President, regarding policy, as it may decide by vote to be expedient, but no recommendations for appointments, promotions, or dismissals, may originate with the Advisory Board.

The Executive Committee of the Academic Council consists of the President, Vice-President, Registrar, and two members from each department group elected by the Academic Council. The Executive Committee appoints the Academic Committees of the Council.

The Standing Administrative Committees of the Council are appointed by the President subject to the approval of the Advisory Board.

The Department Faculties consist of the professors, associate professors, assistant professors, and instructors in the several departments,

but only members of the Academic Council have the right to vote. A Department Faculty has direction of the work of instruction in the department and of the internal administration of the department, subject only to such control as is vested in the Board of Trustees, the President of the University, and the Academic Council. The Executive Head of the Department Faculty is designated by the President with the approval of the Advisory Board and of the Board of Trustees.

Departments

The work of the University embraces the following departments, divided into groups for the purpose of elections to the Advisory Board and Executive Committee, as indicated:

(I) Greek, Latin, Germanic Languages, Romanic Languages, English; (II) Botany, Physiology and Histology, Zoology, Entomology and Bionomics, Medicine, Anatomy, Bacteriology and Immunity; (III) Psychology, Mathematics, Physics, Chemistry, Geology and Mining; (IV) Philosophy, Education, History, Economics, Law; (V) Applied Mathematics, Civil Engineering, Mechanical Engineering, Electrical Engineering.

The Marine Biological Laboratory, founded by the liberality of Mr. Timothy Hopkins, and located at Pacific Grove, on the Bay of Monterey, is a branch of the biological work of the University.

Location

The seat of the University, except for the advanced and clinical work in Medicine, is at Stanford University, in the Santa Clara Valley, thirty miles southeast of San Francisco, on the Coast Division of the Southern Pacific Railway. The grounds of the University consist of over seven thousand acres, partly level and partly rising into the foothills of the Santa Cruz Range. The Bay of San Francisco lies about three miles east of the University grounds. Across the bay the Monte Diablo Range rises to a height of over four thousand feet, the Lick Observatory crowning Mt. Hamilton, the highest of the range. The Santa Clara Valley is one of the most attractive portions of the State in fertility, in natural beauty, and in the excellence of its climate. In winter the mercury rarely falls below 30 degrees, with an average midday temperature of about 55 degrees. In summer the midday temperature ranges between 60 degrees and 80 degrees, with occasional higher and lower numbers, the average being about 70 degrees; the nights are cool, the usual range being from 50 degrees to 58 degrees. The rainfall, normally about eighteen inches, is chiefly confined to the months from December to April, inclusive.

Buildings

The central group of buildings, constituting two quadrangles, the one surrounding the other, is an adaptation of the Mission Architecture, and reproduces on an imposing scale the open arches, long colonnades, and red tile roofing of the old Spanish Missions of California. The Inner Quadrangle consists of twelve one-story buildings and the Memorial Church, connected by a continuous open arcade, and surrounding a court 586 feet long by 246 feet wide, or three and a quarter acres. The buildings are of buff sandstone, somewhat varied in color, the stonework of broken ashlar, with rough rock-face, and the roofs covered with red tile.

The fourteen buildings of the Outer Quadrangle are constructed of the same material and in the same general style as the Inner Quadrangle, with open arcades on the outside. The extreme length of the Outer Quadrangle is 894 feet.

The Leland Stanford Junior Museum, situated a quarter of a mile from the Quadrangles, on the west side of the Palo Alto Avenue, contains the archæological and art collections of the University.

The Chemistry Building, located between the Quadrangles and the Museum, consists of two separate structures—the main building and the Assaying Laboratory.

Behind the central quadrangles are located the workshops of the Engineering departments, experimental laboratories, etc.

The dormitories are east and west of the Quadrangles. Encina Hall, for men, is at the east, and has accommodations for three hundred students. Roble Hall, for women, is at the west, and will accommodate one hundred students. Madroño Hall, a frame building, at present leased to private parties, receives only women students. It will accommodate about thirty students.

Encina Gymnasium and Roble Gymnasium are frame buildings, equipped with the apparatus and appliances for physical training.

The University Inn is a frame building intended primarily as a University commons for students living on the campus.

The grounds immediately about the University have been reserved in part for experimental and ornamental purposes, in part as residence sites for members of the Faculty and others who may desire to live on the University campus.

The buildings of the Medical Department in San Francisco occupy four fifty-vara lots bounded by Clay, Sacramento, and Webster streets, and consist of the Clinical and Laboratory Building; Lane Hospital, a

modern building in brick and stone, with a capacity of one hundred and eighty beds; the Nurses' Home; and the Lane Library, a fireproof structure of Colusa sandstone, three and a half stories high, with steel stacks accommodating 60,000 volumes.

The buildings of the MARINE BIOLOGICAL LABORATORY are located at Pacific Grove. They consist of two two-story structures, and contain four general laboratories, one lecture room, seventeen private rooms for investigation, and a dark room for photography.

ADMISSION TO THE UNIVERSITY

[For special regulations governing admission of women, see p. 66.]

I. First-Year Standing

CANDIDATES must be at least sixteen years of age. They must present satisfactory recommendations as to personal character, and must offer credentials amounting to fifteen entrance units as indicated below. Women must make formal application in advance on blanks to be furnished by the Registrar (see pp. 65-66).

An Entrance Unit represents a year's study in any subject in a secondary school, constituting approximately one quarter of a full year's work. In assigning credit values two laboratory, drawing, or practice periods, not requiring additional study or preparation, are regarded as the equivalent of one recitation period. The length of the school year is assumed to be from thirty-six to forty weeks.

Entrance on Recommendation

Undergraduate standing, without further tests, is granted as follows:

1. To graduates of approved preparatory schools who have completed a regular four years' course, amounting to not less than *fifteen* entrance units, and who are fully recommended to the University.

It is the purpose of the University to emphasize (1) quality of preparation and intellectual promise; (2) personal character and seriousness of purpose. Principals are expected to exact a high standard of scholarship as preliminary to recommendation, and to withhold recommendation from those who are undesirable or unpromising from the point of view of moral qualities or habits.

In fixing its recommending standard a school may properly provide that lower passing grades in a particular subject or subjects may be offset by a general high average or by decided intellectual promise. (Subjects passed with a grade below the recommending standard will be credited toward the necessary fifteen entrance units only when specific recommendation to that effect is made by the principal.) Subjects completed with private tutors, or under other than regular school conditions, should not ordinarily be recommended. Where the course of study includes the newer subjects, in which high school standards are not fixed, the quantity and quality of work must be specially

evidenced; in music (except in schools accredited by the University of California and following the California outline), the candidate will be expected to pass the examinations of the College Entrance Examination Board or similar university examinations.

Approved Preparatory Schools are schools maintaining full four years courses of high school work and accredited (1) by The New England College Entrance Certificate Board, by The North Central Association of Colleges and Secondary Schools, by colleges and universities of recognized standing, or (2) upon inspection undertaken or authorized by the University.

The University records of first-year students will be considered as additional evidence of the standing of preparatory schools and of their good faith and success in meeting the requirements of the University, and such evidence will be made use of in determining as to the continuance of accrediting relations.

2. To recommended graduates of California State Normal Schools, and to graduates of other Normal Schools approved by the California State Board of Education as of equal rank with California State Normal Schools, who are holders of the highest grade diploma issued by these Normal Schools. (For conditions on which advanced standing may be granted Normal School graduates, see p. 65.)

3. To holders of seventy-two-count Diplomas issued by the Regents of the State of New York, granted *with credit, with great credit,* or *with highest credit.*

4. To candidates from China, Japan, Mexico, and other foreign countries who present credentials showing the satisfactory completion of courses of study equivalent to those of approved American high schools. In Japan such courses of study must extend at least two years beyond graduation from a middle school; in Mexico, graduation from the National Preparatory School or from other preparatory schools maintaining six years courses, will be required. Before admission to the University such candidates must show ability to use, and to understand readily, both written and spoken English; if coming directly from these countries they must ordinarily expect to spend at least one year in an American preparatory school, or under special instruction in English, before being able to meet this test.

Recommendations will be considered at any time of the year, but, to avoid uncertainty and give opportunity for correction of errors and misunderstandings, they should be forwarded to the University as soon as possible after graduation.

Blanks for admission on recommendation may be obtained from the Registrar.

Entrance on Examination

The University holds no entrance examinations, and does not admit students with entrance deficiencies. In general, candidates are advised to remain in the preparatory school until they fulfill the requirements for admission on recommendation; but if prepared to enter on examination, or desiring to supplement incomplete recommendation, they should take the examinations of the College Entrance Examination Board which are held simultaneously in all parts of the United States and in various foreign countries.

In 1915 the entrance examinations of the College Entrance Examination Board will be held June 14-19 (in California, at Stanford University, Berkeley, Los Angeles, and other places.)

All applications for examination must be addressed to the Secretary of the College Entrance Examination Board, Post Office Sub-Station 84, New York, N. Y., and must be made upon a blank form to be obtained from the Secretary of the Board upon application.

Applications for examination at points in the United States east of the Mississippi River, also at points on the Mississippi River, must be received by the Secretary of the Board at least two weeks in advance of the examinations, that is, on or before Monday, May 31, 1915; applications for examination elsewhere in the United States or in Canada must be received at least three weeks in advance of the examinations, that is, on or before Monday, May 24, 1915; and applications for examination outside of the United States and Canada must be received at least five weeks in advance of the examinations, that is, on or before Monday, May 10, 1915.

Applications received later than the dates named will be accepted when it is possible to arrange for the admission of the candidates concerned, but only upon the payment of $5 in addition to the usual fee.

The examination fee is $5 for all candidates examined at points in the United States and Canada, and $15 for all candidates examined outside of the United States and Canada. The fee (which cannot be accepted in advance of the application) should be remitted by postal order, express order, or draft on New York to the order of the College Entrance Examination Board.

A list of the places at which examinations are to be held by the Board is published about March 1st of each year. Requests that the examinations be held at particular points, to receive proper consideration, should be transmitted to the Secretary of the Board not later than February 1st.

In these examinations the University will accept a mark of 60 as the lowest passing grade.

A Definition of Requirements in the various subjects in which examinations are held is given in Document No. 68, issued by the Board. (Price 10 cents: address Secretary, College Entrance Examination Board, Post Office Sub-Station 84, New York, N. Y.)

Entrance Subjects

The standard of preparation is the four years' high school course. The proper co-ordination of high school subjects for the individual pupil is regarded as primarily a problem for the secondary school; the University is prepared to recognize for entrance credit any subject having an established place in the secondary school curriculum, in which adequate instruction is given and which is pursued to satisfactory results.

No prescription, other than English, is made. Candidates desiring to study mathematics must obviously offer such elementary mathematics as is not taught in the University, and engineering students are expected to offer also solid geometry and trigonometry. Candidates desiring to study Latin should offer at least two entrance units in that subject. The State law governing the practice of medicine in California prescribes, among other requirements, that the preparatory course of every person practicing medicine or surgery in the State shall have included two years of Latin (or four years of high school German or French, or its equivalent, provided a satisfactory examination is passed in the elements of Latin grammar), two years of mathematics, two years of English, one year of history, two years of laboratory science, and six years of further credits in language, literature, history, or science.

All first-year undergraduates (including special students, and students coming from other institutions with less than twenty units of advanced credit) will be required to satisfy the University standard in English Composition. This may be done by passing a special Matriculation Test given during matriculation week. The examination will test the candidate's ability to write exercises not only free from marked deficiencies in spelling, punctuation, sentence structure, and paragraphing, but also indicative of his ability to think consecutively on a simple subject. The subjects which are set at the time of the examination will be drawn for the most part from the candidate's own experiences.

A student who passes this test may be exempted from Composition work in the University, or may enter Course 2 in the Department

of English. A student who does not pass will be required to register in English A at once (unless, by reason of numbers, such registration is postponed to a later semester), and remain in the course until his work is of passing grade. Some students, whose work shows exceptional promise of maturity, may be assigned to English 2 instead.

DEFINITION OF HIGH-SCHOOL SUBJECTS

The definition of high-school subjects given by the College Entrance Examination Board (Document No. 68 issued by the Board) will serve as a standard, and also, for California schools, the outline prepared by the University of California. The following suggestions and explanations will indicate the attitude of the University in judging entrance credentials, but no attempt is made to enumerate all the subjects which may be properly included in the high school curriculum.

1. English.—The work in English Composition should be given at least two recitations a week throughout the entire high school course. The greater part of this time should be devoted to practice in writing, but it is recommended that some attention be also paid to instruction in the fundamental principles of formal rhetoric.

The work in English Literature should be given an average of at least three recitations a week throughout the four years of the preparatory course. It should be so conducted as to give the student not only an appreciative understanding of the books selected either for general or for more intensive study, but also a knowledge of their place in the history of English Literature, and especially an ability to read aloud intelligently both prose and verse.

In the History of English Literature preparation should consist in a brief outline with a view to making clear the character and the tendencies of the more important literary epochs and associating the chief books and authors in their proper periods.

2. Mathematics.—The work in Mathematics is usually distributed as indicated by the following unit values: algebra (1 to 2), plane geometry (1), solid geometry (½), trigonometry (½). Additional work may be offered in algebra and plane analytical geometry. The solution of numerous original problems and exercises is assumed throughout the course.

3. The Sciences.—In Physics, Chemistry, Physiology, Botany, Zoology, Hygiene, and General Science a full year's work in each is expected, comprising, preferably, two recitation periods and three double laboratory periods per week. Accurate notes of the laboratory

work should be kept. Any two of the biological sciences (Physiology, Botany, Zoology) may be combined into a continuous year's course. Astronomy may be offered as a half-unit course.

Students who receive entrance credit in Chemistry, and who wish to continue the subject in the University, will be admitted at once to course *a*II and will be required to begin course I.

In Physiology the text-book work should be accompanied by experiment, dissection of animals and organs, and a certain amount of study of the tissues with the microscope.

In Botany the main thing is that the work shall be of a practical nature; that the study be mainly specimens and not books. A study of the growth and development of the forms selected is of the highest importance, and should be made a prominent feature in the work. If possible, the pupil should be allowed the use of a compound microscope; but when this is not practicable, microscopic demonstrations by the instructor are indispensable.

In Hygiene the work should include adequate instruction in personal hygiene, the hygiene of occupation, and the relation of the citizen to the State in matters of sanitation and public health. Three periods per week of physical training and three periods in experimental laboratory work in Hygiene, and two recitations per week on Public Health, or an equivalent amount of work distributed over a longer period, will cover the requirements for one unit of credit.

4. History and Allied Subjects.—History should be offered in full unit courses covering respectively the following divisions: (*a*) Ancient, (*b*) Mediaeval and Modern, (*c*) English, (*d*) American. Civics may be offered as a part of American history, or as an additional half-unit course. Biblical History and Literature and Economics may each be offered as a half-unit or as a unit course.

In the History subjects, in addition to the text-book preparation, the following exercises are recommended: Supplementary reading, including the use of original material where possible, notes and digests of reading; abstracts or analyses of specified chapters, both of the text-book and supplementary reading; outlines of subjects, gathering material from all available sources; map drawing from printed data or comparison of existing maps, showing movements of exploration, migration or conquest, territorial changes, or social phenomena. Such work should be regarded as a means rather than the end of historical study, and in every instance should be adapted in character and amount to the stage of advancement of the class and of the individual pupil. As the pupil progresses in his study, more advanced work

may well be required in the form of historical composition, and of note-taking in the class from talks by the teacher or reports of fellow pupils.

5-6. Spanish and French.—The elementary study of the languages, covering two years of daily recitations, should lay stress on the following points: (1) An accurate knowledge of the forms of the languages; (2) The elements of syntax; (3) The ability to turn easy English prose into French or Spanish; (4) The ability to translate ordinary French or Spanish into idiomatic English; (5) The ability to pronounce French and Spanish correctly.

The Intermediate requirements are intended to represent a third year of daily recitations. The specific demands are: (1) A thorough knowledge of modern French and Spanish syntax; (2) the ability to turn ordinary modern French and Spanish at sight into idiomatic English; (3) the ability to translate connected English prose of moderate difficulty into French or Spanish; (4) the ability to write French or Spanish from dictation; (5) some facility in speaking the languages.

The Advanced requirements will occupy a fourth year of daily recitations. At the end of this course the student should be able: (1) to read at sight any standard author not earlier than the seventeenth century; (2) to write in French or Spanish a short essay on some simple subject connected with the works read; (3) to translate correctly a passage of modern English prose; (4) to carry on a simple conversation in French or Spanish; (5) to follow a lecture in French or Spanish.

The reading in the Elementary course should cover from four hundred to six hundred duodecimo pages; in the Intermediate course a similar amount should be read of prose and verse, a portion to be in the dramatic form; and in the Advanced course the same quantity of prose and verse should be selected from standard authors not earlier than the seventeenth century, and these should be read with reference to their literary value.

The practice of writing compositions consisting in reproductions or paraphrases of the matter read should be begun in the Intermediate course and followed by short themes along similar lines in the Advanced course.

7. German.—The elementary study of the language, covering two years of daily recitations, should include the following requirements: The ability to read understandingly easy German prose and verse

at sight; an accurate knowledge of the most important elements of grammar, embracing especially inflections, word-order, and the essentials of syntax, as also the ability to appreciate the force of prefixes and suffixes; the ability to express in correct German simple ideas concerning familiar things; the ability to make oral use of the German learned and to recognize German words and simple sentences when spoken. Careful attention should be given to pronunciation and accentuation, in order to insure the power to read German fluently and intelligently.

This preparation is represented, approximately, *in reading,* by material of the character of Thomas and Hervey's Reader, and the careful study of one or more modern dramas (about two hundred duodecimo pages of easy German), supplemented by the reading of German lyrics and ballads, a number of which should be memorized; *in composition,* by daily practice in reproducing in one form or another the German read and in writing in German.

Intermediate German represents a third year of daily recitations covering the following requirements: The ability to read intelligently ordinary German prose and verse at sight; some knowledge of word-formation and derivation; practical familiarity with the principles of syntax, with special reference to the uses of the tenses and cases, the modal auxiliaries, and the moods; increased ability to write and speak German.

It is believed that this preparation can be acquired by continued practice such as is suggested above, in connection with the careful reading of five hundred duodecimo pages of contemporary and classical prose and verse, in addition to the reading required for Elementary German. It is recommended that about one-half of this reading be selected from the works of living or recent writers, such as Otto Ernst, Storm, Keller, Freytag, etc.; and the other half from such classics as Lessing's Minna von Barnhelm, Schiller's Wilhelm Tell, and Goethe's Wahrheit und Dichtung. Particular attention should be paid to the literary value of the works read. It is also desirable that candidates should acquire the ability to understand and take part in a recitation conducted in German.

Advanced German represents a fourth year covering, in addition to the preparation in Elementary and Intermediate German, the following requirements: A firmer hold on the important elements of German Grammar; a thorough knowledge of at least two of the following classics: Goethe's Hermann und Dorothea or his Iphigenia, Lessing's Nathan der Weise, and Schiller's Wallenstein, as well as

of two or more recent dramas, all of which should be studied as much as possible with an eye to the appreciation of their literary value; some familiarity with the technical language of literature and science; the ability to compose in German with ease and to follow lectures delivered in German.

8. Latin.—The reading required in elementary and advanced Latin (4 units), without regard to the prescription of particular authors and works, is not less *in amount* than Caesar, Gallic War, I-IV; Cicero, the orations against Catiline, for the Manilian Law, and for Archias; Virgil, Aeneid, I-VI. An equivalent amount of reading from authors other than these specified above may be substituted. The following are suggested: Caesar, Civil War; Eutropius; Nepos; Terence, Phormio; Cicero, Letters; Sallust; Virgil, Bucolics and Georgics; Ovid, Metamorphoses.

Exercises in translation at sight should begin in school with the first lessons in which Latin sentences of any length occur, and should continue throughout the course with sufficient frequency to insure correct methods of work on the part of the student. From the outset particular attention should be given to developing the ability to take in the meaning of each word—and so, gradually, of the whole sentence —as it stands; the sentence should be read and understood in the order of the original, with full appreciation of the force of each word as it comes, so far as this can be known or inferred from that which has preceded and from the form and position of the word itself. The habit of reading in this way should be encouraged and cultivated as the best preparation for all the translating that the student has to do. No translation, however, should be a mechanical metaphrase. Nor should it be a mere loose paraphrase. The full meaning of the passage to be translated, gathered in the way described above, should finally be expressed in clear and natural English.

The school work in Latin should include much reading aloud, writing from dictation, and translation from the teacher's reading. Learning suitable passages by heart is also very useful, and should be practiced.

The work in composition should give the student a better understanding of the Latin he is reading at the time, if it is prose, and greater facility in reading. It is desirable, however, that there should be systematic and regular work in composition during the time in which poetry is read as well; for this work the prose authors already studied should be used as models.

9. Greek.—In Elementary Greek (2 units) the following requirements should be covered: Grammar, the inflections and the essential points of syntax; Xenophon's Anabasis, Books I-IV, or an equivalent; prose composition. It is expected of every pupil that he be able to read Greek aloud without stumbling.

In Advanced Greek (1 unit): Homer, Iliad, Books I-III, or an equivalent; advanced prose composition. The pupil should have a good acquaintance with the forms and syntax of Homer, and be able to scan any given passage exactly and to read it rhythmically. In the writing of Greek the pupil should have a year's training beyond that required in Elementary Greek.

10. Drawing and Applied Art.—In each of the drawing subjects (Freehand, Mechanical, and Architectural) a unit of credit represents daily double periods for a year or single periods for two years.

In Freehand Drawing approximately two-thirds of the time should be given to representation and one-third to decorative and constructive design. *Representation* should include: object drawing, boxes, books, bowls, vegetables, machine parts, drawn in various positions with attention to perspective facts in line and also to light and shade; plant forms, seed pods, shells, insects, animals, and simple landscape, drawn in line, in light and shade, and in color; composition, exercises in arrangement and adaptation of pictorial subjects into good composition, using both rhythmic line arrangement and harmonious color. The style of drawing should be direct, facile and effective, adapted to the thing drawn, with refinement in its proper place and vigor in its proper place. The pupil should be equally familiar with the use of pencil and charcoal or brush. *Design* should include (1) Exercises in space filling, borders and all-over patterns with use of geometric and organic forms; (2) principles of constructive and decorative design applied to simple objects, as: in printing, a title-page or program; in textiles, a stencil or embroidery design for a curtain or table-scarf; in wood, working drawings for a chair, table, clock-case, book-rack, etc.; in metal, cabinet hardware and lighting fixtures, etc. Talks supplemented by photographs of the best paintings and architecture, and talks upon taste in home furnishing and appointments, with visits to worthy examples, should supplement the course, with a view to developing an enlightened taste in art.

In Mechanical Drawing the pupil is expected to acquire neatness and accuracy in the use of drawing instruments. This course should include practice in line work, lettering, machine or architectural work-

ing drawings, and tracing. Recognition, commensurate with the length of course and the degree of proficiency attained in the use of instruments, will be given, however, to courses consisting of line work, lettering, and the construction of geometric figures.

11. **Shopwork.**—Two things are expected: First, a knowledge of the materials and tools used, and a thorough understanding of the principles involved in the operation performed; second, manual dexterity, as evidenced by neatness, accuracy, and despatch in the execution of a given piece of work.

Woodworking (½ unit) demands the ability to recognize the common varieties of wood, and some knowledge of their physical properties, such as ease of working, strength, toughness, hardness, etc., is expected. The pupil should be familiar with the uses of the principal hand tools of carpentry and with their care, be able to make the ordinary kinds of joints and splices, and be familiar with the operation of the lathe, jig-, band-, and circular-saws, and planing machines.

Forge Work (½ unit) demands an elementary knowledge of the properties of wrought iron and steel, and of the proper heats at which to work them. The management of forge and fire and the nature and uses of all the ordinary blacksmithing tools should be known. The pupil should be able to execute all of the common forging processes, including the various forms of welds in iron and steel; he is also expected to understand hardening, tempering, and annealing.

Foundry Work (½ unit) demands a knowledge of the tools and processes used in the ordinary forms of green sand moulding and core work. The pupil should have had experience in the operation of the cupola and know how to charge and operate it. He should have a knowledge of the properties of cast iron, and experience in pouring cast iron as well as in moulding.

Machine Shop Work (½ to 1 unit) demands a knowledge of the tools and processes used in the wroking of iron, steel, and brass. The pupil should be able to execute all forms of vice-work, such as chipping, filing, scraping, fitting, and finishing. He should be familiar, through experience in operation, with the simpler forms of machine tools, such as the lathe, drilling machine, planer, shaper, and milling machine.

12-15.—In Agriculture, Horticulture, Domestic Science, Commercial Subjects, and Music the outline prepared by the University of California is suggested; also, in Music, the definition given by the College Entrance Examination Board.

II. SPECIAL STUDENTS

Men of considerable maturity, twenty-one years of age or older, who do not fulfill the requirements for regular undergraduate standing, but whose incomplete preparation has been supplemented by practical training and experience of distinct educative value, may be admitted as special students at the discretion of the Committee on Admission and Advanced Standing. Those who come directly from the schools without completing a regular high school course, or with grades which do not allow admission on recommendation, and those whose practical training has been inconsiderable in amount or not directed toward some definite end, are not proper candidates for special standing. Such persons should plan to fulfill the requirements for regular standing by further school work or by passing the entrance examinations of the College Entrance Examination Board.

Women will not be received as special students.

Special students are subject to the same University regulations as regular undergraduates, and they may become candidates for graduation upon fulfilling all University requirements (see p. 79).

Blank applications for admission as special students may be obtained from the Registrar.

Special Workers

Physicians and other who are properly qualified but not candidates for a degree, may be admitted to work in the Department of Medicine with the permission of the Executive Head of the Department and of the professor or professors concerned. Such persons shall be listed as Special Workers.

III. ADVANCED STANDING

Students from other institutions of recognized collegiate rank, who present satisfactory credentials, may be admitted to such standing and upon such terms as the Faculty may deem equitable. Students from institutions of equivalent rank, who maintain a satisfactory record after admission, may expect to receive the same standing as at the former institution, except that no such student can be given more than three years' advanced credit (ninety unit-hours toward graduation), and that differences in standard of entrance preparation will be taken account of. Every candidate must present a full certified transcript of his college record, including entrance credit, and a letter of honorable dismissal. Women with less than two years of college

standing must make formal application in advance on blanks to be furnished by the Registrar (see below).

Recommended graduates of approved State Normal Schools where the normal training has been preceded by a full four years' high school course, or where high school and normal school course together cover six years' work, may ordinarily be granted an advanced credit of thirty units.

Blank applications for admission to advanced standing may be obtained from the Registrar.

All applications for advanced standing on the basis of work done before entering the University must be filed within two years after matriculation; and such applications will not be received at a later date.

IV. GRADUATE STANDING

Graduates of institutions of recognized collegiate rank may be admitted to graduate standing in the University upon presentation of diplomas or equivalent credentials. Admission to technical graduate standing does not imply admission to candidacy for an advanced degree (for the conditions of such candidacy see p. 85). If graduates of other universities desire to become candidates for the baccalaureate degree, the question of units required for graduation may be waived, upon approval of the Committee on Admission and Advanced Standing, and the degree conferred on the satisfactory completion of not less than thirty units of university work and the fulfillment of all major and minor requirements. Graduate students not candidates for any degree, may be permitted, upon the approval of the major department, to undertake such work as their previous training seems to warrant.

Special Regulations Governing Admission of Women

The Founding Grant of the University, as amended May 31, 1899, directs "that the number of women attending the University as students shall at no time ever exceed five hundred." In conforming to this provision the following plan of admission has been adopted:

Women once admitted to the University will be allowed to continue without further application, so long as scholarship and conduct are satisfactory, and provided they present themselves for registration on the regularly appointed days. Places will not be held for women students after the regular registration days, except by permission of the Committee on Registration granted in advance.

Graduates of other colleges and universities of recognized standing will be placed upon the Preferred List provided they made formal application (on blanks to be obtained of the Registrar) not later than August 15th for the August-September matriculation, and not later than December 20th for the January matriculation, and provided credentials are filed by the dates named.

Candidates for undergraduate standing whose credentials, besides fulfilling the entrance requirements of the University, indicate exceptionally high scholarship and special fitness, may also be placed on the Preferred List at the discretion of the Committee on Admission, provided credentials are filed by July 10th (for the August-September matriculation), and by October 10th (for the January matriculation).

The Preferred List will be closed for undergraduates July 10th and October 10th respectively. All candidates on the Preferred List are assured of admission if present on the regularly appointed registration days.

For all other candidates Numbered Lists will be begun July 10th (for the August-September matriculation) and October 10th (for the January matriculation). Candidates whose credentials are complete and in the hands of the Registrar on the dates specified will be given numbered admission cards in the order of original application. (These numbered cards will be mailed to candidates about the middle of July, or October, as the case may be). After the first lists are made up additional numbered cards will be issued in the order in which the requirements are fulfilled, the order of original application applying where the complete credentials of more than one candidate are received on the same date.

On registration day candidates on the numbered list will register according to their serial order and to the estimated number that will not exceed the 500 limit. Should this estimate prove too high the necessary cancellations will be made on the following day, beginning with the highest number. If less than 500 women shall have registered at the close of the regular registration period, others on the numbered list will be permitted to register, in their serial order, until the full number is complete.

Complete credentials comprise: for *first-year standing,* (1) formal application, (2) fifteen accepted entrance units; for *advanced standing,* (1) formal application, (2) full certified statement of college record, including entrance credits, (3) letter of honorable dismissal; for *graduate standing,* (1) formal application, (2) diploma or certificate of graduation.

Applications may be made at any time. They must be on blanks furnished by the University, and must state the proposed date of entrance and the credentials which the candidate expects to offer. To insure consideration, applications made more than six months before the proposed date of matriculation must be renewed (by written notice or new application) some time during the six months immediately preceding the proposed date of matriculation (between March 1st and July 10th for the August matriculation; between July 1st and October 10th for the January matriculation: earlier renewal is of no advantage). Blanks for application may be obtained of the Registrar.

Early application is important—preferably two or more years in advance of the proposed date of matriculation. But unless complete credentials follow in due time so as to be in the hands of the Registrar on the dates specified (July 10th, October 10th), the advantage of early application will be lost.

Candidates receiving numbered cards for a given date, but not matriculating at that time, may transfer their applications to a later period, retaining the advantage of the original date of application.

FEES, EXPENSES, AND AID FUNDS

Tuition and Incidental Fees

TUITION FEES are charged in Law, for professional law courses, as follows: to students registering for thirteen or more units in law in any semester, $50 per semester; to students registering for less than thirteen units in law for any semester, $4 per unit per semester.

The Tuition Fee in the Department of Medicine is $150 per year.

An Incidental Fee of $15 per semester is charged to all registered students, with the following exceptions: (1) Those registered in the professional courses of Law and Medicine, paying tuition fees in those departments amounting to fifteen dollars or more per semester; (2) graduate students doing *bona fide* graduate work, as certified to by the departments concerned, whether as candidates for advanced degrees or not.

Students in laboratory courses pay for the materials which they use, and in various courses syllabus and other fees may be charged. Laboratory and syllabus fees are different for the different courses, ranging from $0.50 to $25 per semester.

Laboratory fees are ordinarily returnable as follows when duly claimed in writing within two months after the date of withdrawal from the University: thus, the whole amount will be refunded when the student withdraws within one week of the beginning of a semester, and one-half the amount if the student withdraws before the middle of a semester; but no fees will be refunded on account of withdrawals after the middle of a semester, nor unless claimed in writing within two months after the date of withdrawal. (This regulation is not applicable to the Department of Chemistry.)

The Guild Fee of $2 per semester is charged to all students registered in the University.

A Diploma Fee of $5, payable before Commencement in May, is charged all persons receiving degrees from the University.

Cost of Living

The cost of living in Roble Hall, including board, room, light, heat, and attendance, averages about $28 per month. Students furnish their own linen, blankets, and towels. Requests for reservation of rooms should be made to the Matron of Roble Hall.

Rooms in Encina Hall cost $8 per month, with two in a room. There are a few single rooms at $8 per month. Students occupying a double room alone pay $8 per month; but no double room may be occupied by one student when there is a vacancy in any other double room. Requests for reservation of rooms should be made to the Clerk of Encina Hall.

Students may live outside the Halls only in places approved by the University.

In Palo Alto and College Terrace, at an average distance of a mile and a quarter from the University, rooms and board, in private houses, can be obtained, at from $25 to $35 per month. A considerable number of students live in co-operative clubs, in which the cost of board and room is reduced as low as $20 per month; such rooms are lighted and heated, but usually unfurnished. Special commutation tickets are issued by the Southern Pacific Company, and students living in towns on the line of the railway, from San Francisco to San Jose, easily go to and from the University daily. There is also trolley connection with San Jose, Los Gatos, and intermediate towns.

On arriving at the University, new students may obtain information of rooms and board at the Information Bureau conducted by the Christian Associations. A complete list of approved rooms and boarding places is printed in August. Particular inquiries may be addressed to the secretaries of the Christian Associations.

The University Inn, located near the Quadrangle, has dining accommodations for about three hundred students.

Books and stationery will average from eighteen to twenty-five dollars per year.

The necessary expenses of the student, exclusive of clothing and railway fares and of tuition fees in Law and Medicine, range from $350 to $500 per year.

The cost of living for students of Medicine in San Francisco is about the same as at Stanford University. There are numerous rooming and boarding houses near the medical buildings.

Self-Support of Students

A considerable number of students manage, in one way or another, to earn the whole or a part of their expenses while attending the University. Such opportunities occur in the line of office and laboratory assistance, personal services of numerous kinds, the management of various student enterprises, agencies for laundries, etc.

The Student Employment Bureau (in charge of the Christian Associations) registers without charge all students who apply for employment, and supplies employers with student labor as demanded. In general, the demand and supply are nearly equal, but the attention of new students who intend to earn the whole or part of their living is called to the following results of past experience:

1. There is a constant *over-supply* of those wishing to do teaching and clerical work. None but those having superior qualifications and experience are likely to secure employment the first semester.

2. There is a considerable demand for efficient stenographers and typewriters; also for men and especially women who can do domestic labor of any kind; board and room rent may be earned by waiting on table, washing dishes, general housework, house cleaning, gardening, etc.

3. Students who can do any kind of domestic or manual labor *well,* and who have thoroughly good health, can earn their board by three hours' work per day, or board and room by four hours' work per day. Those who are bookbinders, printers, mechanics, or carpenters, will have a decided advantage in obtaining employment. *But no student is advised to come to the University without resources sufficient for the expenses of one semester.*

4. The University curriculum is adapted to those who have control of their entire time for study. The student who must earn his living, therefore, should expect to take less than the usual amount of University work.

5. No student should come expecting to earn money, who can do nothing well; skill is absolutely essential, as competition is quite as severe in the college community as elsewhere.

6. Opportunities for earning money during the summer vacations can usually be counted on, the demand for canvassers being most constant.

Particular inquiries concerning opportunities for self-support should be addressed to the Secretaries of the Y. M. C. A. or Y. W. C. A. Upon arrival at the University new students should report for registration and information to the Information Bureau of the Associations.

SCHOLARSHIPS AND ASSISTANTSHIPS

There are a number of student-assistant positions in the various departments, held by either undergraduates or graduates, ranging in pay from $500 to $100 each, the average being about $200. These do not include a considerable number of minor positions in laboratories or

elsewhere where mere labor without skill or special knowledge is required, nor do they include those positions where the full time of the assistant is demanded.

Each department selects and recommends for appointment its own assistants. Requests for information as to pay and duties and applications for appointment should be addressed to the Executive Head of the department in which a position is sought.

William Burton Barber Loan Fund

Mrs. Anna M. Barber, mother of William Burton Barber, '02, has established, in memory of her son, the William Burton Barber Loan Fund "to provide for needy and worthy students," and has presented to the University for this purpose the sum of three hundred dollars. This loan fund is available for men and women members of the senior class who have been registered in the University for at least one year, but not more than one hundred dollars shall be loaned to any one student. The loan is made on the personal note of the student and is payable to the University, without interest, not later than one year after the date of graduation, or withdrawal from the University. Applications for loans should be made by personal letter to the Academic Secretary, Stanford University.

Loan and Emergency Fund for Women

The Women's Conference has established a Loan and Emergency Fund for women students which is administered by a committee of the Conference. Applications should be made to the Dean of Women.

Graduate Loan Fund

The Alumni Association of the University has established a loan fund available to graduate students under the following conditions:

1. Loans shall be restricted to candidates for advanced degrees, including the A. M., J. D., M. D., and Ph. D. degrees, preference being given to candidates for the Ph. D. degree.

2. In making loans emphasis shall be placed upon character, scholarship, and intellectual promise, in addition to personal need.

3. Loans shall be repaid not later than one year after securing the degree or withdrawing from the university.

Applications should be made to the Academic Secretary, Stanford University, California.

The Dickey Scholarship Fund

The Trustees of the University have received from the estate of the

late W. J. DICKEY, of Fresno, the sum of ten thousand dollars for the establishment of the Dickey Scholarship Fund "to aid young men from Fresno County, preferably from Fresno City, to make their way through Stanford University." The trustees of the Dickey Estate are Mr. BERNARD FAYMONVILLE, Vice-President of the Fireman's Fund Insurance Company, San Francisco; Mr. E. A. WALDRON, Cashier of the First National Bank of Fresno, and Mr. M. B. HARRIS, of the Fresno bar. The selection and appointment of the W. J. Dickey scholars shall be made by the President upon the recommendation of the Faculty Committee on Admission and Advanced Standing, subject to the provision that the trustees under the will of Mr. Dickey shall be consulted and their advice taken before any appointment is made. No one shall be appointed to a Dickey Scholarship unless he shall have been a resident of the County of Fresno, and preferably of the City of Fresno, for at least two years prior to his appointment; and no scholarship shall be held or shared by one person for more than four years.

No one shall be appointed to a W. J. Dickey scholarship unless he has fulfilled all the requirements for regular standing in the University.

Other things being equal, preference shall be given, in making appointments, to first-year students.

Appointments shall be made for the college year, but may be terminated earlier at the discretion of the committee. Appointments may be renewed at the discretion of the committee, for a total period not to exceed four years.

In making its recommendation the faculty committee shall keep in mind that the donor of the W. J. Dickey scholarship fund wished the benefits therefrom to be derived by persons who are financially unable to make their way through college. In addition to this fact, character, scholarship, and seriousness of purpose shall be taken into consideration in determining appointments.

The W. J. Dickey Scholarship Fund provides for two scholarships for the year 1914-15 of $250 each, payable in nine monthly installments beginning September 1, 1914.

Application for appointment to the W. J. Dickey scholarship, with pertinent evidence and testimonials, shall be made to the President of the University, who will refer it to the appropriate committee. Candidates shall be recommended by the committee to the President, who will submit the names to the trustees of the Dickey estate, and upon their approval appointments shall be made by the President of the University.

Memorial Scholarship

The Leland Stanford Junior Scholarship, established by Mrs. Stanford, in 1900, pays the necessary expenses of its holder throughout the undergraduate course. A room in Encina Hall is especially reserved for occupancy by the holder of the scholarship.

The Joseph Bonnheim Memorial Fund

April 5, 1897, Albert Bonnheim and wife, of Sacramento, California, founded the Joseph Bonnheim Memorial Fund, for the purpose of assisting worthy boys and girls to receive an education, "having in view such preparation and training, scholastic and otherwise, as will make the beneficiary self-sustaining by whatsoever trade, profession, or calling may seem best adapted for such purpose in each case." Applications for scholarships to be awarded in accordance with the provisions of this fund should be addressed to the Trustees, care of Albert Bonnheim, Secretary, Sacramento, California.

The Alumni Jordan Scholarships

The Alumni Jordan Scholarship Fund has been founded largely by physicians who were at one time students of Stanford University. Its purpose is to pay the tuition fees of two or three medical students of high standing, with the understanding that at some future time the amount will be returned without interest. The student who once receives this scholarship loan will be entitled to its use throughout his medical course provided his work continues to be satisfactory.

The Bernard Scholarship in Entomology

Mrs. Matilda Bernard, widow of the late Henry M. Bernard of the University of Cambridge, England, has established an annual scholarship in Entomology. The purpose is to defray part of the expenses of a student, who, under the direction of the Department of Entomology, shall carry on an investigation in insect histology having some reference to the biological theories of the late husband of the donor of the scholarship.

Thomas Welton Stanford Fellowship in Psychic Research

From the "Psychic Fund," created by Mr. Thomas Welton Stanford, of Australia, the Trustees have established the Thomas Welton Stanford Fellowship for Research in Psychic Phenomena.

Harvard Club Scholarship

The Harvard Club of San Francisco maintains a scholarship for the purpose of aiding graduates of the University of California and of the Leland Stanford Junior University to pursue graduate work at Harvard

University. Appointments to this scholarship, the present income of which is $500, are for one year only. Applicants should state, in writing, their college course and their purpose and plans for the future. Applications should be in the hands of the Registrar by March 1st.

Yale Alumni Association Fellowship

The Yale Alumni Association of California awards annually the sum of $300 (to which Yale University adds an amount equal to the charge for tuition) to a graduate of the University of California or of Stanford University, for the pursuit of graduate study at Yale. Applications should be addressed to the Secretary of the Yale Alumni Association, Mr. James A. Ballentine, Monadnock Building, San Francisco.

The Rhodes Scholarships

Under the will of the late Cecil Rhodes two scholarships are assigned to each State and Territory in the United States. Each scholarship has a yearly value of $1,500, and is tenable at any college in the University of Oxford for three successive academic years.

Candidates must be unmarried, must be citizens of the United States, and must be not younger than 19 nor older than 25 on October 1st of the year in which they are elected. All scholars shall have reached before going into residence, at least the end of their sophomore year at some recognized degree-granting university or college. In accordance with the wish of Mr. Rhodes, the trustees desire that "in the election of a student to a scholarship, regard shall be had to (1) his literary and scholastic attainments, (2) his fondness for and success in manly outdoor sports, such as cricket, football, and the like, (3) his qualities of manhood, truth, courage, devotion to duty, sympathy for and protection of the weak, kindliness, unselfishness, and fellowship, and (4) his exhibition during school days of moral force of character, and of instincts to lead and to take an interest in his schoolmates."

Students' Guild

The Guild is a student organization which seeks to make provision for the care of all cases of serious illness among its members. This is now accomplished for non-contagious diseases, through an arrangement with the Peninsula Hospital of Palo Alto. For the care of contagious diseases, provision has been made by the erection of a Detention Hospital on the University Campus.

All students are required to become members of the Guild by paying the fee, which is two dollars each semester. A uniform hospital rate of one dollar per day is charged all members of the Guild, in addition to such special charges as may be incurred for extra service.

GENERAL REGULATIONS

Registration

ON THE appointed Registration Days, in August and January, each student must obtain a certificate of registration *in person*, at the Registrar's office.

Matriculated students may register after the appointed Registration Days and during registration week, upon payment of a special fee of two dollars; during the week following the fee for late registration will be four dollars; after that the fee will be increased one dollar for each week's delay. Registration of undergraduates and specials will not be permitted later than one month after the beginning of instruction.

Study Card

At the Registrar's office the student receives a card for selection of studies for the semester. This card, properly filled out, and approved by the major department, must be filed with the Registrar at the time of registration; but late study cards will be accepted upon payment of a special fee of two dollars. Students registering late are admitted to particular classes only by permission of the instructors concerned. All work for which University credit is desired must be duly registered.

Enrollment in Classes

A student desiring to enter any class must present his certificate of registration to the instructor for enrollment at the beginning of each semester. Whether the student is qualified for enrollment in a particular class is a question to be decided by the instructor in charge. In general, the prerequisites for taking any given course are noted under "Courses of Instruction."

Change of Studies

A student desiring to drop a subject once taken up, or to take up a new subject after the study card has been filed, must present to the Committee on Registration a petition for such change, approved by the major department and by the instructors whose subjects are to be taken or dropped. In general, petitions so approved, if they do not give the student too many unit-hours, or too few unit-hours, and if presented within three weeks after the beginning of the semester, are

granted without question. If presented at a later time in the semester they will be granted only for extraordinary reasons, and, where the taking up of new subjects is involved, only on payment of a special fee of two dollars for each course; if otherwise acceptable but presented after the close of the semester, they will be granted only on payment of a special fee of four dollars for each course. In the case of petitions to drop subjects during the last six weeks of the semester, action will be deferred until the close of the semester.

Change of Major Subject

Petitions to change the major subject will be granted when approved by the departments in charge of both the old and the new subjects, the student being held to all the requirements of the new major subject. (First-year students may change their major subject at the end of the first or second semester without petition.) In general, the major subject may be changed at the end of the first year, and in some cases later, without appreciable loss of time to the student.

Amount of Work

Fifteen hours per week of recitations or lectures or an equivalent in laboratory work, constitutes an average semester's work. In general, students may register for as few as *thirteen* or as many as *eighteen* unit-hours; but in the case of students doing outside work for self-support or otherwise, and where considerations of health are involved, special restrictions will be made upon recommendation of the professor of hygiene; and where conditions or failures have been incurred in the preceding semester, not more than *fifteen* units may be registered unless by special permission of the Committee on Registration granted in advance. Permission to register for less than *thirteen* units may also be granted for special reasons; but registration for less than *ten* units will not ordinarily be accepted. Not more than eighteen units may be credited toward graduation for any semester's work, unless, in exceptional cases, permission to register for additional units is granted in advance. Graduate students are not held to any special number of unit-hours, but registration will not ordinarily be permitted unless such students are prepared to devote at least half of their working time to University study. Petitions for irregular registration should be presented at the beginning of the semester.

Every unit for which credit is given is understood to represent approximately, for the average student, three hours of actual work per week, through one semester. Thus, in lecture or recitation work, for

one unit of credit one hour per week may be allotted to the lecture or recitation and two hours for preparation or subsequent reading and study on the part of the student; but if a less amount of time is allotted for preparation or subsequent reading or study, there shall be a proportionate decrease in the amount of credit. Where the time is wholly occupied with drawing, field, or laboratory work, or in the class-room work of conversation classes, three full hours per week through one semester are expected of the student for each unit of credit; but where such work is supplemented by systematic outside reading or experiment under the direction of the instructor, such a reduction may be made in the actual drawing, field, laboratory, or class-room time as seems just to the department concerned.

Conditions and Failures

A student conditioned in any subject may arrange with the instructor concerned for such supplementary examinations or study as will make good the deficiency; but such deficiency must be removed within one year after the condition is incurred, otherwise the condition will be considered a failure. Work reported as incomplete may be made up during the first or second semester's registration after the incomplete is incurred; but if not made up until the second semester, the incomplete work shall be duly entered on the student's study card and shall count as part of the permitted registration for that semester to the extent of the actual unit-hours required for making up such incomplete work as estimated by the instructors concerned. A student failing in any subject cannot receive credit for the portion in which the failure is incurred until the subject has been re-registered and taken over again in class. A condition or failure or withdrawal from class without permission of the Committee on Registration, limits the student to *fifteen* units the semester following.

Mid-semester reports on scholarship are obtained from all instructors, and students reported as doing unsatisfactory work are notified of their deficiencies. A student whose work is unsatisfactory may be placed on probation at any time. At the middle and at the end of the semester each department shall be notified of all serious deficiencies in scholarship affecting students whose major work is in that department.

A student who receives passing grades in less than half the work for which he is registered during his first semester, or in less than two-thirds during any subsequent semester, shall be deemed to have failed in his studies. After a first failure, unless unusually serious, a

student may, with the approval of the major department, again register in the University, but shall be placed on probation for one semester. A second failure shall result in withdrawal from the University. Work marked "incomplete" will be considered of passing grade only when reported as satisfactory in quality and not seriously deficient in quantity.

A student whose delinquency is unusually serious, or is the result of persistent neglect, may be required to withdraw from the University at any time.

Leave of absence will not generally be granted to a student on probation, nor to any student whose work during the current semester is unsatisfactory, unless applied for at least six weeks before the end of the semester.

A student on probation may not take part in any intercollegiate contest, nor represent the University in any way, whether individually or in connection with any athletic, literary, musical, dramatic, or other organization.

From Special to Regular Standing

Special students may be entered in regular standing and become candidates for graduation, on passing examinations in the required number of entrance subjects, provided such examinations are passed not later than two years after matriculation. In place of entrance examinations, university work to the amount of five units for each entrance deficiency may be offered in university subjects which are also included in the entrance group.

A special student who has completed one hundred and fifty units of university work, including all major requirements, and whose general university record is deemed proof of superior scholarship, may become a candidate for graduation on approval of the Committee on Admission and Advanced Standing. Petitions to this end will not be considered by the Committee until after the student has completed one hundred and twenty units of university work.

University Credit for Extra Entrance Subjects

Credit toward graduation may be given for entrance subjects in excess of the number required for admission, provided such extra entrance subjects are also university subjects, and are successfully continued in the University within two years after matriculation, and provided the student's general University record is deemed proof of superior scholarship. In general, three units of advanced credit will be granted for each extra entrance unit representing elementary work in a given subject, and five units of advanced credit for each extra

entrance unit representing advanced work. Application for such university credit must be made within two years after matriculation. After matriculation additional entrance units may be offered only for the purpose of making up entrance deficiencies.

University Credit for Special Courses

Matriculated students on leave of absence may take work in other universities, usually without any restrictions other than those imposed by the institution in question. But work undertaken in any Summer Session may be subject to special regulations, and must be approved by the major department and by the department in which the work is to be taken.

Work of a special character taken outside of regularly scheduled classes, *in absentia* or during summer vacations, may be credited under the following conditions: (1) The work must be acceptable as part of the major requirements for the A. B. degree in the department by which it is authorized, must be authorized by the department faculty concerned, as well as by the instructor under whom it is to be carried on, must be given adequate supervision and direction and subjected to the same tests as in the case of regularly scheduled courses, and must be duly registered with the approval of the Committee on Admission and Advanced Standing; if not registered in advance, a fee of two dollars will be charged for late registration; (2) such work may not be offered to cover deficiencies due to poor scholarship; (3) a fee to the University of two dollars per semester unit must be paid before credit is entered.

The last semester's work of every candidate for a degree must be taken in this University; but in special cases, students who have obtained at least ninety units in resident work and who have completed all major department requirements may be exempted from this regulation and permitted to register for special courses under the provisions noted above.

Advanced Standing

Advanced standing for work done before matriculation will generally be given only when certified as having been completed in some institution of recognized collegiate rank, except as provided above for extra entrance units, or, in particular cases, to recommended graduates of approved State Normal Schools (see p. 66). But in special cases permission may be given by the Faculty to receive credit on examination for work equivalent to regular University courses. Application for such examinations, with satisfactory evidence of the work accomplished,

must be presented to the Committee on Advanced Standing. Applications for advanced standing on the basis of work done before entering the University must be made within two years after matriculation.

Leave of Absence

A student desiring to leave the University for a brief time should apply to the Committee on Registration. If leave of absence is desired on account of sickness, the petition must be indorsed by the professor of hygiene. A leave of absence is merely a justification of the absence and not a relief from the work that has been missed. A leave of absence is usually necessary only in case of interrupted work; a student in good standing absent one or more semesters may re-enter at the beginning of any semester without formal petition.

Honorable Dismissal

An honorable dismissal means that the student is permitted voluntarily to withdraw from the University and is commended to the favorable consideration of any institution he may wish to enter. An honorable dismissal may be granted upon written application to any student not under discipline for misconduct.

Conduct of Students

In the government of the University the largest liberty consistent with good work and good order is allowed. Students are expected to show both within and without the University such respect for order, morality, personal honor, and the rights of others as is demanded of good citizens. Failure to do this will be sufficient cause for removal from the University.

In 1908 the Board of Trustees of the University provided that in all future rentals or leases of houses as fraternity chapter houses it shall be expressly stipulated that no intoxicating liquors of whatever kind shall ever be sold or used on the premises. The Trustees also by formal resolution requested the Academic Council to prohibit the use of liquor in fraternity chapter houses, student club houses, and other student lodgings.

This action of the Board of Trustees is in harmony with the instructions given by the Academic Council to its Committee on Student Affairs, and defines the policy of the University. Prohibition of the use of liquor extends to all student lodgings whether on the campus or elsewhere. The University assumes that the act of registering as a student implies full acceptance of this policy.

Student Control

In 1911-12 the Faculty Committee on Student Affairs entered into an agreement with the University Conferences by which responsibility for the government of the students and for maintaining University standards was assumed by the men and women of the University. The general regulations of the University, standards of conduct, responsibilities, duties, and particular enactments of the Conferences are given in the "Manual of Student Control" printed by the Conferences.

University Health Control

The University exercises an advisory control over student health affairs through the Committee on Public Health.

Every student upon entering the University is required to report for a brief examination. General health and evidence of effective vaccination are the important factors in the examination. Any condition which may place a limitation on the amount or kind of work planned by the student may be discussed with him or made the subject of a report to his major department or to the Committee on Registration.

Students intending to train for any of the athletic teams, or to register for gymnasium work, are required to pass a careful physical examination at the beginning of each semester.

A careful inspection of all boarding and rooming houses in the community is carried on under the supervision of the Public Health Committee, and only those are permitted to register who arrange to live in houses which have been approved.

VACCINATION

Within two weeks of the day of registration every student must file with the Committee on Public Health a certificate, signed by the vaccinator, who must be a duly licensed and practicing physician, giving exact dates of vaccination, and showing either successful vaccination within seven years, or unsuccessful vaccination twice within the past twelve months.

Non-compliance with these requirements will result in a fine of two dollars after two weeks, and an additional fine of four dollars after four weeks, and cancellation of registration after six weeks from the day of registration.

All certificates should be filed in person at the office of the Committee on Public Health. They will be returned upon request. "Conscientious objections" will not be recognized as exempting anyone. Unavoidable delay, or failure to secure a satisfactory certificate, will not exempt anyone from the fine.

ROOM CARDS

Every student is required to present at the Registrar's Office, at the time of registration, a properly signed room card. These cards can only be obtained from the owner or manager of the house from whom the room is rented. They are supplied to the house owner or manager by the Public Health Committee if the room meets the University requirements. Students are cautioned to obtain their room card before making a binding agreement for the rental of room.

GRADUATION

CANDIDATES may present themselves for graduation in January, May, and September.

No degree will be conferred upon any person who has not spent at least one year in resident study at the University. No honorary degrees are given.

Bachelor of Arts

The degree of Bachelor of Arts (A. B.) is conferred upon candidates who have satisfactorily completed a total of one hundred and twenty units of University work and who have also satisfied the requirements in major and minor subjects.

Thirty units constitute a normal year's work (see p. 76), but the ordinary class divisions (freshman, sophomore, junior, senior) are not recognized by the University. The degree is conferred whenever the requirements are met, without regard to the time spent, except that at least thirty units (including, except in special cases, the last fifteen) must be completed in this University.

Each student selects as a Major Subject the work of some one Department. The Major Department has the authority to prescribe not more than forty units in the Major Subject (exclusive of elementary courses in the Major Department which may be offered for entrance). The Major Department shall also recommend such other courses as it may consider desirable, and shall exercise an advisory supervision over the student's entire curriculum from semester to semester. Major Department supervision of the student's study lists shall be administered in the spirit of the major subject system, which is to provide the inexperienced student with necessary advice and direction while developing his power of initiative, and to accord to the mature student larger and larger responsibility in planning his own curriculum. It shall be considered a general principle of University policy, to be departed from only in exceptional cases, that at least sixty of the one hundred and twenty units required for the degree be taken outside of the Major Department.

In applied science the Major Department may prescribe so much of the entire one hundred and twenty units as it shall deem essential to the technical or professional requirements of the major subject.

A course in English Composition (English A) is prescribed for first-year undergraduates who do not satisfy the matriculation test.

Within these limitations the work in all departments is elective, and the student may freely choose any course which his previous studies have prepared him to undertake.

The recommendation of the Major Department is necessary to graduation.

(A student in regular undergraduate standing who does not intend to become a candidate for the A. B. degree, may choose, with the approval of the major department, any courses in the University which his previous training has prepared him to undertake.)

Bachelor of Laws

The degree of Bachelor of Laws (LL. B.) is conferred upon candidates who have satisfactorily completed two years (sixty units) of non-professional study in the pre-legal curriculum and three years of professional study in the law school.

Candidacy for Advanced Degrees

Candidates for advanced degrees must be registered in the University and must file a statement of their candidacy with the Registrar. The approval of a programme of study by the Department Faculty concerned and by the Committee on Graduate Study constitutes formal admission to candidacy. Only under exceptional circumstances will a programme of work be approved which is received later than the beginning of the academic year in which the degree is to be taken. It is advisable that such programme be filed as early as possible in the student's course. No advanced degree will be conferred except upon the recommendation of the Committee on Graduate Study.

The Committee on Graduate Study interprets the requirement that statements of candidacy must be filed 'at the beginning of the academic year' etc., as meaning 'within the first six weeks of the academic year,' etc. Statements once submitted must be kept on file and cannot be withdrawn even after substitutes have been filed and accepted.

Master of Arts

The degree of Master of Arts (A. M.) is conferred on graduates of this University, and on others who have had an equivalent training elsewhere, upon the satisfactory completion in residence, of one year of work beyond the baccalaureate requirements of the department in which the degree is sought, and upon the presentation of an approved thesis, and the passing of such general or final examination as the

major department may require. A longer period of residence will be required of candidates who are inadequately prepared or who devote less than the normal amount of time to their graduate course. Work may be done in connection with the regular courses of instruction or, as research, independently of them. The programme of study must form a consistent plan of work pursued with some definite aim whether it lies wholly in a single department or field of study, or in more than one. At least two-thirds of a year's work must be devoted to advanced or graduate work in the major study or in intimately allied subjects.

Special regulations are:

1. A report upon the character of the work done shall be made by each instructor under whom a candidate is registered.

2. A candidate for the degree of Master of Arts must display ability to do independent work.

3. The Master's thesis, bearing the approval of the instructor under whose supervision it was prepared, must be submitted to the Committee on Graduate Study by the date on which instruction closes for the semester in which the degree is taken; upon acceptance, it shall be suitably bound and placed in the University Library.

Engineer

In the Department of Applied Science the professional degree of Engineer is conferred on graduates of this University, and on others who have had an equivalent training elsewhere, upon the satisfactory completion, in residence, of one year of professional study beyond the baccalaureate requirements of the department in which the degree is sought, and upon the presentation of an approved thesis, showing ability to do independent work. Upon the recommendation of the Department, and in order to permit the carrying on of advanced work with equipment or under conditions not available at the University, the requirement of residence may in part be waived.

The special regulations stated above for the degree of Master of Arts apply also to the degree of Engineer.

Juris Doctor

The degree of Juris Doctor (J. D.) is conferred on students who have previously received the academic degree of Bachelor of Arts, or an equivalent degree elsewhere, upon the completion of the three years' professional law course. The first year of the professional law course may be taken by candidates for the A. B. degree.

Doctor of Medicine

The degree of Doctor of Medicine (M. D.) is conferred upon the completion of the five years' curriculum in medicine, based upon a three years' pre-medical course as laid down by the University.

Doctor of Philosophy

The degree of Doctor of Philosophy (Ph. D.) is conferred on graduates of this University, and on others who have had an equivalent training elsewhere, upon the satisfactory completion of at least three years of graduate work, beyond the baccalaureate requirements of the department in which the degree is sought, under the following conditions:

1. At least the last year of study must be spent in residence at this University.

2. At least one year prior to the date when the degree is sought, the candidate must show a reading knowledge of French and German in his special literature. The faculty of the department in which the major work is taken determines whether this requirement has been met.

3. The programme of study must include one major subject and one or two minors. The minor subject or subjects shall represent approximately one-third of the programme of study; except that such minor subjects may be waived upon the recommendation of the major subject department, if approved by the Committee on Graduate Study, when the breadth and extent of the candidate's training justify such a course,—in which case the candidate will be expected to show such breadth of training in his oral examination.

4. The candidate must present a thesis at least six weeks before the close of the semester in which the degree is sought, in form and content acceptable to his department and to the Committee on Graduate Study. He must guarantee the printing of the thesis within one year after the degree is conferred and the deposit of one hundred copies in the Library.

5. In addition to satisfying the requirements of major and minor departments, the candidate must submit to an oral test or examination by a special examining committee of the Faculty and in the presence of such other members of the Faculty as care to attend. The special examining committee consists of (1) the professors of the major-subject department with the Chairman of the Committee on Graduate Study presiding, (2) the one or more professors in charge of the minor

subject or subjects, (3) two members of the Committee on Graduate Study whose departments lie nearest that of the major professor, and (4) the Secretary of the Committee on Graduate Study, acting as its secretary. The Committee may at its discretion invite other members of the Faculty to participate in the oral examination.

Advanced Degrees in the Medical Department

The Divisions of the Medical Department are considered as equivalent to other departments of the University in respect to candidacy and requirements for the degrees of Master of Arts and Doctor of Philosophy, and all the foregoing regulations apply to these divisions and division faculties as to departments and department faculties, with the following modifications and limitations:

1. Candidates for these degrees must have received the degree of A. B. at Stanford, or an equivalent degree elsewhere, and must have completed all requirements for admission to the Department of Medicine, and such other requirements as each division faculty may prescribe.

2. Time spent in candidacy for the degree of Master of Arts or Doctor of Philosophy will not be counted toward the degree of Doctor of Medicine.

3. Candidates for these degrees in the divisions of Medicine, Surgery, and Obstetrics and Gynecology, must have received the degree of Doctor of Medicine.

The High School Teacher's Certificate

High school certificates may be issued by County, and City and County Boards of Education under the provisions of Section 1519, subdivision 5 (*a*), Section 1775, subdivision 1 (*a*), and Section 1792 of the Political Code of California, to candidates who meet all the requirements under any one of the following groups:

Group I: Standard Group

1. A Bachelor's degree from an institution requiring eight years of high school and college work.

2. One year of graduate study (which shall include one full-year course of advanced or graduate work in at least one subject in which recommendation is sought) in an institution approved by the State Board of Education.

3. Fifteen units in Education, including courses in (*a*) School and Classroom Management, minimum one unit; (*b*) Secondary Educa-

tion, minimum two units; (*c*) Practice Teaching (or eight months' teaching experience), minimum four units; (*d*) a Teachers' Course in at least one subject in which the candidate expects to be recommended for certification, if such course be given in the institution and be accepted by or listed under the work in Education, a maximum of three units for all such courses.

GROUP II: NORMAL-GRADUATE GROUP

1. A Bachelor's degree from an institution requiring eight years of high school and college work.

2. One half-year of graduate study in an institution approved by the State Board of Education.

3. Graduation from an approved normal school.

4. Five units in Education, including (*a*) Secondary Education, minimum two units; (*b*) a Teachers' Course in at least one subject in which the candidate expects to be recommended for certification, if such course be given in the institution and be accepted by or listed under the work in Education, a maximum of three units for all such courses.

GROUP III: EXPERIENCED-TEACHERS' GROUP

1. A Bachelor's degree from an institution requiring eight years of high school and college work.

2. One half-year of graduate study in an institution approved by the State Board of Education.

3. Twenty months' experience in schools of elementary or secondary grade.

GROUP IV: SPECIAL NORMAL-COURSE GROUP

1. A Bachelor's degree from an institution requiring eight years of high school and college work.

2. One half-year of graduate study in an institution approved by the State Board of Education.

3. Five units in Education, including (*a*) Secondary Education, minimum two units; (*b*) a Teachers' Course in at least one subject in which the candidate expects to be recommended for certification, if such course be given in the institution and be accepted by or listed under the work in Education, a maximum of three units for all such courses.

4. One half-year (following the graduate study) in an approved normal school in which special courses are given for college students who are preparing for high school certification.

The Grammar School Teacher's Certificate

Under Section 1775 of the Political Code of California, as amended March 1909, County Boards of Education are authorized to grant, without examination, grammar school certificates "to holders of diplomas of graduation of the four-year course of the University of California or Leland Stanford Junior University when said holder of such diploma shall have had six months' training in one of the State Normal Schools of this State or has had eight months' successful experience in teaching in the public schools of California after graduation."

Under Section 1543 of the Political Code of California, as amended March 1909, County Superintendents of Schools are authorized "to issue temporary elementary certificates valid for two years to graduates of the University of California and to graduates of the Leland Stanford Junior University"; but "no person shall be entitled to receive a temporary certificate more than once in the same county."

Appointment Registry

The University endeavors (1) to keep a record of students and graduates who wish to teach, or to be transferred to other teaching positions, and (2) upon application of school and college officials, to recommend for suitable vacancies such candidates as seem most likely to succeed.

The University aims to obtain complete information with regard to the scholarship, experience, and personal qualifications of each candidate, and reports from instructors and others concerning the fitness of candidates are filed in the office of the Appointment Secretary. Such information is regarded as confidential, and general letters of recommendation are not given. Copies of such credentials as are on file will be mailed to school and college officials, at their request, or at the request of the candidate concerned. But the University reserves the right of refusing to extend its coöperation to students when they apply for positions for which they are manifestly unfit. Official recommendations for positions are made only upon request of those in authority. Letters requesting such recommendations should state explicitly the subjects to be taught, the salary to be paid per year, and the time when the engagement is to begin.

While the services of the Office have been called for mainly in connection with school and college positions, there is an increasing number of requests for persons in other types of employment—

stenographers, secretaries, librarians, bacteriologists, social and playground workers, and the like. The Office has therefore undertaken to collect information regarding the vocational training and experience of such students as may desire to register with the Committee.

Blanks for registration may be obtained of the Appointment Secretary, at the Registrar's office, and should be filled out each year, preferably during February or March.

Communications should be addressed to the Appointment Secretary, Stanford University, California.

COURSES OF INSTRUCTION

[The superior figure [1] before the name of an instructor or assistant indicates first semester only; [2], second semester only.]

GREEK

AUGUSTUS TABER MURRAY, Professor.

ERNEST WHITNEY MARTIN, Associate Professor.

MABEL ADELLA BREKKE, JOHN DANIEL COOKE, EMANUEL RHODES NUSBAUM, EMILY VIRGINIA POINDEXTER, ELEANOR MCKEE WYMAN, Assistants.

[With the co-operation of Professor FAIRCLOUGH of the Department of Latin.]

UNDERGRADUATE COURSES

Instruction in the lower classes is given chiefly by means of recitations, but as the student advances these are supplemented by lectures. In courses 1, 2, 3, 13, and 14 the work is arranged so as to provide as far as possible individual instruction for each student. In this way it has been found possible to read more widely, while at the same time there is a distinct gain in thoroughness.

The TEACHER'S RECOMMENDATION.—Courses 2, 3, 4, 5, and 15 (or equivalents) constitute the minimum requirement for the high school teacher's recommendation in Greek.

1. Elementary.—Grammar; translation of easy prose; Greek composition. After the essential grammatical forms have been mastered, the students are led to read as widely as possible in simple narrative prose, including Xenophon's Anabasis, selections from the Gospels, and Cebes' Tablet. The course includes systematic drill in the ordinary forms of syntax, and exercises in writing Greek are regularly introduced. Two divisions.

3 to 5 units, both semesters (MARTIN, MURRAY) MTWThF 9:15, 1:30

2. Simple Attic Prose.—Selections from prose writers, adapted to the needs of individual students. Open to those who have offered Greek for entrance, or who have completed course 1 in the University. Students who have completed course 14 may take this course on recommendation of the instructor. In this course each student meets regularly with one of the instructors for direct personal instruction.

3 units, 1st semester (MARTIN, BREKKE, COOKE) MWF 8:15

3. The Odyssey.—A continuation of course 2, similarly conducted.
3 units, 2d semester (MARTIN, BREKKE, COOKE) MWF 8:15

4. Prose Composition.—Systematic training in the writing of simple Greek with exercises in sight translation. Required of Greek major students in connection with courses 2 and 3.
2 units, both semesters (MARTIN) TTh 8:15

5. Homer.—The reading of large portions of the Iliad, with discussions of Homeric problems from time to time. Open to students who have completed courses 2 and 3, or an equivalent.
3 units, 1st semester (MARTIN) MWF 10:15

6. Herodotus.—The rapid reading of several books of Herodotus.
3 units, 2d semester (MARTIN) MWF 10:15

7. Modern Greek.—First semester: Grammar, exercises, simple reading in current newspapers, etc. Second semester: Wider reading in modern Greek literature and translations.
2 units, both semesters (MARTIN) TTh 9:15

9. Demosthenes.—A study of the De Corona.
3 units, 1st semester (MURRAY) MWF 11:15

10. Thucydides.—Passages best serving to illustrate Thucydides' conception of history, and his art as an historian, read and interpreted, and large sections of his work read in translation.
3 units, 2d semester (MURRAY) MWF 11:15

11. Greek Tragedy.—The Prometheus Bound and Agamemnon of Aeschylus, with the Antigone of Sophocles and the Taurica Iphigeneia of Euripides, read and interpreted, with lectures on Greek dramatic art from time to time.
3 units, both semesters (MURRAY) [Not given in 1914-15.]

12. Greek Testament.—The first semester is devoted to the study of the Gospels, with especial reference to the synoptic tradition; the second semester is devoted largely to the epistles of Paul.
2 units, both semesters (MURRAY) TTh 8:15

13. Rapid Reading.—The student and instructor meet weekly for individual reading in easy Greek, suited to the student's particular needs. Open to all who have had at least one semester of Elementary Greek. 1 to 3 units, both semesters
(MURRAY, MARTIN, BREKKE, COOKE, WYMAN) By arrangement

14. Introductory.—An introduction to the study of the Greek language leading up to the reading of easy Attic prose and New Testament Greek. Special attention is given to the Greek element in English.
3 to 5 units, 2d semester (MARTIN) MTWThF 2:30

15. Teachers' Course.—Lectures with practical exercises.
3 units, 2d semester (MURRAY) By arrangement

16. History of Greece.—A general outline course.
3 units, 1st semester (MARTIN) MWF 11:15

17. Lyric Poetry.—Selected readings accompanied by lectures.
2 units, 1st semester (FAIRCLOUGH) T 2:30

GRADUATE COURSES

The center of the Graduate work is the Greek Seminary—made up of the director and such students as satisfy him of their fitness for the work. The Seminary meets weekly for the critical interpretation of some Greek author, the different members, in turn, filling the post of interpreter. Topics for investigation are assigned, and papers prepared by the members are read and discussed.

Members of the Seminary are expected to supplement their critical work by wide reading, and lectures on the author or authors under discussion are given by the director. It is in the highest degree desirable that all members of the Seminary should be able to read both French and German, and this is indispensable in the case of those who are candidates for the degree of Doctor of Philosophy.

18. The Greek Seminary.—In 1914-15, the study of Plato's Republic.
2 units, both semesters (MURRAY) W 3:30

19. Rapid Reading.—Weekly meetings of graduate and advanced students for the reading of Plato.
2 to 4 units, both semesters (MURRAY) M 3:30

SPECIAL LECTURES

Throughout the year lectures are given twice weekly, on Greek Epic and Dramatic Poetry, and on Greek Sculpture. These lectures are intended for general students, and do not presuppose a knowledge of Greek; they do not count as part of the major work for students in Greek. The courses are not open to incoming freshmen.

20. The Greek Epic.
2 units, 1st semester (MURRAY) TTh 10:15

21. Greek Tragedy.
2 units, 2d semester (MURRAY) TTh 10:15

22. Greek Sculpture.—Lectures, illustrated with photographs and lantern slides, on the history and character of Greek sculpture.
2 units, 1st semester (FAIRCLOUGH) TTh 11:15

23. Greek Literature.—Representative types, tracing the development of Greek literature, are studied in English translations. Informal lectures are given from time to time.

3 units, 2d semester (MARTIN) MWF 11:15

LATIN

HENRY RUSHTON FAIRCLOUGH, Professor.
JEFFERSON ELMORE, BENJAMIN OLIVER FOSTER, Associate Professors.
WILLIAM CHISLETT, JR., JACOB CASPAR SHAMBERGER, Graduate Assistants.

[With the co-operation of Associate Professor MARTIN of the Greek Department, and of Professor HEMPL of the Department of Germanic Languages.]

UNDERGRADUATE COURSES

The aim of the undergraduate courses in Latin is to give the student a somewhat systematic knowledge of the language and its development, an acquaintance with the representative authors of Latin literature, and some insight into the life, culture, and civilization of ancient Rome.

The Department recognizes two classes of major students: (1) those who wish to pursue a course of liberal studies, including Latin as a prominent feature; (2) those who, expecting to teach Latin, desire to be properly equipped for that purpose.

Students who wish to qualify for teaching Latin must take courses 2, 4, 5, 6, 7, 8, 9, and 17, together with such other courses as are recommended by the Department. To other students more freedom of choice is allowed.

1a. Introductory.—The course is given for students who desire at least one year of Latin and for those who wish to begin the subject with a view to further study. The class is conducted by the Direct Method.

3 units, both semesters (ELMORE) MWF 10:15

1b. Intermediate.—This course is designed for those who have completed 1*a* and who desire to continue the subject by the Direct Method. The texts for reading include selections from Eutropius, Nepos, Caesar, Cicero, and Virgil.

3 units, both semesters (ELMORE) MWF 11:15

1. Virgil and Cicero.—Virgil, selected books of the Æneid; Cicero, selected orations. This course is planned for those who have passed in 1*a* or entrance subject 21*a*.

3 units, both semesters (SHAMBERGER) MWF 11:15

2. Terence, Cicero, and Horace.—Terence, Andria; Cicero, De Senectute; Horace, Odes and Epodes; selections from Catullus. In addition to the study of these Latin texts, the course includes instruction on the general character and development of Roman literature. Open in either semester to students who have completed course 1, or who have offered entrance subject 21*b*. Two sections.

3 units, both semesters (FOSTER) MWF 8:15, 9:15

3. Legal Latin.—The Institutes of Gaius or Justinian are read both as a training in language and as an introduction to some conceptions of Roman law. The course is useful to all who desire a first-hand knowledge of Roman law and of the origins of European social institutions. Open to any students who have had two years of Latin.

2 units, both semesters (FAIRCLOUGH) TTh 10:15

4. Prose Composition I.—Practical exercises and rapid reading of easy prose. Open in either semester to first-year students.

2 units, both semesters (ELMORE) TTh 9:15

5. Horace.—Satires and Epistles. Open to those who have completed course 2 or 3, or an equivalent. Attention is directed especially to the style and subject matter, to Horace's influence on later literature, and to the salient features of the Augustan age.

3 units, 1st semester (MARTIN) MWF 10:15

6. Livy and Tacitus.—Selections from Livy's History; the Agricola of Tacitus. This course, complementary to course 5, involves a survey of Roman history and the literature of the early empire.

3 units, 2d semester (MARTIN) MWF 10:15

7. Oral Latin.—Practice in speaking and in the direct method of teaching.

2 hours, 1 unit, both semesters (FOSTER) TTh 9:15

8. Roman Comedy.—The Trinummus and the Captivi of Plautus, and either the Menaechmi or Terence's Hauton Timorumenos. Attention is paid to early forms, constructions, and meters, and to the staging of a Roman play, with some consideration of the later history of comedy.

2 units, 1st semester (FAIRCLOUGH) TTh 8:15

9. The Letters of Cicero.—Selections from the correspondence are read with a view to obtaining a conception of Cicero's character as a

man and to becoming acquainted, as far as possible, with the social and political conditions of the time.

2 units, 2d semester (FAIRCLOUGH) TTh 8:15

10. Pliny.—Selections from the works of the younger Pliny.

2 units, 1st semester [Not given in 1914-15.]

11. Roman Elegy.—The course is devoted chiefly to Tibullus and Propertius. [For 1914-15 merged in course 23.]

2 units, 2d semester

12. Lucretius.—Selections from the De Rerum Natura are read with particular attention to the philosophic thought and its poetic treatment.

3 units, 2d semester [Not given in 1914-15.]

14. Juvenal and Martial.—Selections from the Satires of Juvenal and the Epigrams of Martial, with supplementary reading in other writers of the first century.

2 units, 1st semester (ELMORE) TTh 8:15

16. Quintilian.—Book X. Rhetoric and literary criticism among the Romans.

2 units, 2d semester (FAIRCLOUGH) W 9:15

17. Teachers' Course.—Lectures on methods of teaching Latin, with practical exercises. Open only to advanced students.

2 units, 1st semester (———) [Not given in 1914-15.]

19. Roman History from the Sources.—Tacitus' account of the reigns of Claudius and Nero, with supplementary reading.

3 units, 2d semester [Not given in 1914-15.]

GRADUATE COURSES

These courses are open to graduates in Latin, and are most profitable to those who have had some undergraduate work in Greek. The ability to read French and German is also very desirable, and, in the case of candidates for the degree of Ph.D., necessary. The aim of the course is to give the student a thorough grasp and detailed knowledge of particular authors, and of certain periods and fields of literary activity, as well as a training in literary criticism, and an acquaintance with the methods of original research.

22. Latin Seminary.—In 1914-15, the field of lyric poetry, especially that of Catullus and Horace, and including Christian Latin hymns. Attention is given to the principal Greek exemplars and to the influence of the classical poetry upon modern literature.

2 to 6 units, both semesters (FAIRCLOUGH) F 2:30

23. Lyric and Elegiac Poetry.—A weekly session for the reading of Greek (1st semester) and Roman lyric poetry.

2 units, both semesters (FAIRCLOUGH, FOSTER) T 2:30

24. Petronius and Apuleius.—The Cena Trimalchionis, and selections from Apuleius.

3 units, 1st semester (———) [Not given in 1914-15.]

25. Introduction to Latin Palaeography.—Lectures and practice in reading facsimiles of manuscripts.

1 unit, 1st semester (FOSTER) W 1:30

26. Introduction to Latin Epigraphy.—Lectures and readings in Latin inscriptions.

1 unit, 2d semester (FAIRCLOUGH) W 1:30

28. Etruscan.—Lectures on the nature of the language and its relation to other Italic dialects.

2 units, 2d semester (HEMPL) [Not given in 1914-15.]

SPECIAL COURSES

29. History of Rome.—A general course, open to all students.

3 units, 2d semester (ELMORE) MWF 8:15

30. Studies in Roman History.—The course takes up the consideration of special problems. Open by permission of the instructor to those who have had Latin 29 or an equivalent.

2 units, 1st semester (ELMORE) TTh 11:15

31. Roman Art and Archaeology.—A survey of the topography, architecture, sculpture, and other art-forms of ancient Rome, illustrated with lantern-slides. This course is open to all, but first-year students must receive special permission from the instructor before registering.

2 units, 2d semester (FAIRCLOUGH) TTh 11:15

32. Latin Literature.—Lectures on the principal poets and prose writers, with assigned readings in English translations. Open to all students.

2 units, 1st semester (FOSTER) TTh 11:15

33. Classical Influences in English Literature.—Supplementary to course 33.

2 units, 2d semester (CHISLETT) TTh 11:15

GERMANIC LANGUAGES

†George Hempl, James Owen Griffin, Professors.
Karl Gustav Rendtorff, William Alpha Cooper, Associate Professors.
Bruno Boezinger, Hermann Hilmer, Assistant Professors.
Friedrich Alexander Wyneken, Charlotte A. Knoch, Instructors.

The advanced courses are intended both for the maturer undergraduate and for candidates for the degrees of Master of Arts and Doctor of Philosophy. Special consideration is given to the needs of those who intend to make the teaching of German their profession. The Library facilities are good, and the collection is being rapidly strengthened in all directions. The private library of the late Professor Hildebrand furnishes valuable material, particularly in the older literature and in lexicography. In modern literature the Library offers good opportunities for advanced work, the Goethe collection being especially satisfactory. The files and the current numbers of most of the important journals are at hand.

Students who intend to teach German are expected to take at least courses 3, 6, 7, 8, 13*b*, 14, 16, 21, and either 10 or 11. It is important that the student heed in time what is said in the notes to courses 2 and 13, and the note above course 10.

1. Elementary.—It is the object of this course to put the learner in possession of the elements of the German language. This implies: (1) a personal command of simple German, that is, the ability to understand such German whether heard or read, and to employ the language in simple conversation, narration, and description, both orally and in writing; (2) such a ready familiarity with the elements of German grammar as is essential for the attainment of this command of the language.

5 units, both semesters (Hilmer, Wyneken, Knoch) MTWThF 8:15, 9:15, 10:15, 11:15

2. Second-year German.—(See note below.)

a. Reading.—Texts suitable for the second year; for the most part, the writings of contemporary authors.

3 units, both semesters (Griffin, Cooper, Hilmer, Wyneken, Knoch) MWF 8:15, 9:15, 10:15, 11:15

†Absent on leave, 1914-15.

aa. Scientific Reading.—Texts selected with a view to preparing scientific students to read technical literature.

3 units, both semesters (BOEZINGER) MWF 10:15, 11:15

b. Second-year Composition, oral and written.—The work of this course is intended to assist the pupil in getting a personal command of German, both spoken and written; with it is correlated a thorough review of the elements of the grammar. By composition is meant, not translation from English, but practice in putting one's thoughts into acceptable written German.

2 units, both semesters (GRIFFIN, BOEZINGER) TTh 8:15, 9:15

[*Note.*—Students expecting to continue the study of German beyond the second year are supposed to have completed both *2a* and *2b* or an equivalent.]

3. Classical German Drama.—This course aims chiefly to be an introduction to the spirit of the classical German drama; but throughout the course an effort is also made to familiarize the student, by means of various selected readings, with the life and character of the German people.

3 units, both semesters (GRIFFIN) MWF 8:15

4. Modern German Drama.—Lectures in connection with the interpretation and rapid reading of some of the more important works of the modern dramatists.

2 or 3 units, both semesters (GRIFFIN) TTh 8:15

5. Modern German Novels.—The reading of standard modern novels, with lectures on the development of the novel.

2 or 3 units, both semesters (HILMER) TTh 9:15

6. Advanced German Grammar.—A systematic presentation of the important facts of German grammar, together with individual investigations of the usage of various writers.

a. Orthography, Phonology, and Morphology.

2 units, both semesters (HEMPL) [Not given in 1914-15.]

b. Syntax.

2 units, both semesters (COOPER) TTh 10:15

7. Third-year Composition.

2 units, both semesters (BOEZINGER, HILMER) TTh 9:15, 10:15

8. Advanced Composition.

2 units, both semesters (BOEZINGER) TTh 11:15

9. Die deutschen Volksbücher.—Extensive reading and the investigation of problems connected with their origin, distribution, etc.

2 units, 2d semester [Not given in 1914-15.]

[*Note.*—Students wishing to take up either of the two following courses (10, 11) will be expected to have such preparation as can be obtained by pursuing courses 3 and either 4 or 5.]

10. Schiller.—Lectures on Schiller's life, together with the interpretation and discussion of his writings. [See note above.]

2 or 3 units, both semesters (RENDTORFF) MW 8:15

11. Goethe.—Course conducted in German. [See note above.]

a. Goethe's life and works.

3 units, both semesters (COOPER) MWF 10:15

b. Goethe's Faust: Urfaust, Fragment of 1790, Part First and Part Second.

3 units, both semesters (COOPER) [Not given in 1914-15.]

13. The History of German Literature.—Lectures and readings.

a. From the earliest times to the eighteenth century.

2 units, both semesters (RENDTORFF) TTh 8:15

b. The eighteenth and nineteenth centuries.

2 units, both semesters (RENDTORFF) [Not given in 1914-15.]

[*Note.*—Students electing course 13 are expected to have pursued a general course in the history of English literature and to be able to read German with facility.]

14. Teachers' Course.—Lectures on the various methods employed in teaching modern languages, together with practice in the conducting of classes.

3 units, 2d semester (COOPER) T 2:30-4

15. The Genesis of Grammar.—Lectures on the origin and development of the parts of speech and of other grammatical apparatus.

2 units, 2d semester (HEMPL) [Not given in 1914-15.]

15b. The Genesis of Writing.—Lectures on the origin and development of writing, with special reference to European systems.

2 units, 2d semester (HEMPL) [Not given in 1914-15.]

16. Middle-High German.—Grammar and selected texts (first semester); Nibelungenlied (second semester).

2 units, both semesters (RENDTORFF) MW 9:15

16b. Advanced Middle-High German.

2 units, both semesters (RENDTORFF) Th 2:30-4:30

17. Old-High German.

2 units, both semesters (BOEZINGER) [Not given in 1914-15.]

18. Old Norse.

2 units, 2d semester (HEMPL) [Not given in 1914-15.]

19. Gothic.

2 units, both semesters (Boezinger) T 2:30-4:30

20. The Runes.—Lectures on the origin and development of primitive Germanic writing.

2 units, 2d semester (Hempl) [Not given in 1914-15.]

21. The History of German Civilization.—Lectures with stereopticon. This course is intended for students of German who wish to become acquainted with the development of German civilization in its relation to German literature.

2 units, both semesters (Rendtorff) W 2:30-4:30

23. Thesis Course.—Special investigations and reports intended primarily to furnish undergraduates a training in preparation for original research work. Under the direction of the various members of the staff. Credit subject to individual adjustment.

[See also course 28 in the Department of Latin.]

ROMANIC LANGUAGES

Oliver Martin Johnston, Professor.
Clifford Gilmore Allen, Associate Professor.
Aurelio Macedonio Espinosa, †Robert Edouard Pellissier, Stanley Astredo Smith, Assistant Professors.
Louis Peter de Vries, Gabriel Henri Grojean, Instructors.
Elizabeth Casey, Carl Marcus Melom, Teaching Assistants.
Anna Ruth Barker, Gladys Margaret Lee, Graduate Assistants.
Eugene John Oberlé, Undergraduate Assistant.
Jeanne Rose Rouiller, Assistant.

The undergraduate courses in the Romanic Languages are planned so as to give students an intimate acquaintance with the modern forms of the languages spoken in the principal neo-latin countries. To this end systematic attention is paid to pronunciation, reading, syntax, and conversation. In the higher courses special emphasis is laid on the study of literature. In order to give students an opportunity to become familiar with the spoken idioms, several of the advanced courses are conducted as far as possible in the language which forms the object of study.

The Department recognizes two classes of major students: (1) students who expect to teach French or Spanish and who wish to take

†Absent on leave, 1914-15.

up the study from the point of view of the specialist; (2) students who desire to group a course of study of a general nature around that of French or Spanish.

Either French or Spanish may be selected as a major subject. Majors in either of these subjects will be required to complete forty units in the Department exclusive of the elementary courses.

In addition major students who intend to teach either French or Spanish will be expected to take Latin 1, 2 and 4, German 1 and 2, and Elementary French or Spanish or Italian.

The TEACHER'S RECOMMENDATION.—The minimum requirement for the High School recommendation is as follows: In French—courses 2, 3, 6, 7, and six units selected from courses 8, 9, 10, 11, 12, 13; in Spanish—courses 14, 15, 16, 17, 18, 19, and 20 or 21. The Department will insist also on course 28. Recommendations will be given only on the vote of the Department, and will demand a degree of scholarship above the ordinary passing mark.

1a. Elementary French.—Fraser and Squair, French Grammar, with written and oral exercises and systematic training in French pronunciation on the basis of Matzke's Primer of French Pronunciation; Aldrich and Foster's French Reader.

3 units, both semesters (DE VRIES) MWF 9:15, 11:15

1b. Elementary French, Reading Course.—The course is intended for students who merely desire to obtain a reading knowledge of the language. Aldrich and Foster, Foundations of French; Aldrich and Foster's French Reader; Mérimée, Colomba.

3 units, both semesters (MELOM) MWF 10:15

[Courses *1a* and *1b* are continuous courses, open to all, but students desiring to enter after the end of the second week will be admitted only upon special examination.]

2. French Composition and Conversation.—The course will be conducted as far as practicable like the corresponding course in English composition, a part of each hour being devoted to conversation. Open to students who have completed course *1a*, or who have received credit for entrance subject *6a*.

3 units, both semesters (GROJEAN, DE VRIES) MWF 8:15, 10:15

2a. French Pronunciation.—Practice in French pronunciation with the phonograph, open to students registering for course 2. One class exercise and two practice hours each week for one semester.

1 unit, either semester (SMITH) T 1:30

3. Modern French Reading.—Class translation of selected texts in prose and verse. In addition, some 300 pages of easy prose will be assigned each semester for outside reading. Open to students who have completed course *1a* or course *1b*, or who have received credit for entrance subject *6a*.

2 units, both semesters (SMITH, MELOM) TTh 9:15, 11:15

[Courses *2a* and 3 constitute the second year's work in French, and should, if possible, be taken during the same year. Course *2a* may not precede course *2*.]

4. Masterpieces of French Literature.—A course designed to acquaint students from other departments with representative works of the greatest French writers. Students will be required to supplement the class work with outside reading (minimum three hours a week). Open to students who have completed course 3 or its equivalent.

3 units, both semesters (SMITH, JOHNSTON, MELOM) MWF 11:15

5. Reading and Writing of French.—Vreeland and Koren, French Syntax and Composition. An intermediate course in reading and composition intended primarily for students entering with entrance subjects *6b* or *6c*.

3 units, both semesters (GROJEAN) MWF 9:15

6. Advanced French Prose Composition.—Translation into French of selected English prose. Open to students who have completed course *2* or course 5.

2 units, both semesters (GROJEAN) TTh 8:15

7. Outline History of Modern French Literature (1500-1900).—Reading, reports, discussions, lectures. Required of French majors. Prerequisites: courses *2* and 3 or their equivalents.

3 units, both semesters (SMITH) MWF 10:15

8. French Classicism.—An intensive study of the works of the French classic authors (1600-1800). Reading and discussion of texts, reports on assigned reading, lectures. Open only to juniors and seniors who have passed course 5 or its equivalent. A pre-seminary course.

3 units, 2d semester (SMITH) T 2:30-3:30, F 1:30-3:30

9. The French Novel.—Lectures in English. Emphasis will be placed on the study of the realistic-naturalistic movement of the 19th century. Extensive reading outside of class and discussion of representative works. Prerequisites: courses *2* and 3 or 5.

3 units, 1st semester (DE VRIES) MWF 8:15

10. Realism in the Modern French Drama.—Lectures in English on the realistic movement in the French drama since 1850. Extensive

reading outside of class and discussion of plays of representative modern authors. Prerequisite: course 7 or 9 or an equivalent.

2 units, 2d semester (De Vries) TTh 9:15

11. Lectures on Modern France.—The lectures will be in French. There will be outside reading and reports. Prerequisites: courses 2 and 3, or course 5, or their equivalent.

2 units, 1st semester (Grojean) TTh 10:15

12. Introduction to the History of French Civilization.—Lectures in French. Outside reading and reports. Prerequisites as above.

2 units, 2d semester (Grojean) TTh 10:15

13. The Romantic Movement in France, Italy and Spain.—(*a*) First semester: Neo-classicism in the Romance countries. Rousseau, Bernardin de St. Pierre, Chateaubriand, the Italian Romanticists. (*b*) Second semester: The French and the Spanish Romanticists. The course is intended for seniors and graduates having a good knowledge of one Romanic language. The lectures will be in English. Each student will be expected to read widely in either the French, the Spanish, or the Italian field.

3 units, both semesters (Grojean) TTh 9:15

14. Elementary Spanish.—The elements of grammar, composition, and conversation; reading, translation, and conversation based on Spanish texts. A continuous course open to all.

3 units, both semesters (Allen, Espinosa, Casey) MWF 8:15, 9:15, 10:15, 11:15

15. Second-year Spanish Composition and Conversation.—Review of grammar, with composition and conversation. Conducted entirely in Spanish. Open to students who have completed course 14, or its equivalent.

3 units, both semesters (Espinosa) MWF 9:15

16. Modern Spanish Reading.—Reading and translation of selected texts in prose and verse. Open to students who have completed course 14, or who have received credit for entrance subject 5*a*.

2 units, both semesters (Allen, Casey) TTh 9:15, 11:15

17. Advanced Spanish Composition and Conversation.—(*a*) Reading of Spanish texts with exercises in composition and abundant oral drill. (*b*) Translation into Spanish of selected English prose. Open to students who have completed course 15 or its equivalent.

2 units, both semesters (Espinosa) TTh 9:15

18. Classical Spanish.—A study of the principal authors of the classical period. Representative texts will be read of Cervantes, Lope

de Vega, Calderón, Alarcón, Tirso de Molina, as well as selections from Ford's A Spanish Anthology. Open to students who have completed courses 15 and 16 or their equivalent.

2 units, both semesters (Allen) TTh 10:15

19. Modern Spanish Novel.—A study of the modern Spanish novel and its relation to the development of the novel in France and other European countries. Lectures and collateral readings. Open to seniors of all departments.

2 units, 2d semester (Allen) TTh 8:15

20. Modern Spanish Drama.—(*a*) A rapid survey of the development of the Spanish drama in the nineteenth century, with a study of the more important works of Rivas, Gutiérrez, Zorrilla, Bretón de los Herreros, Ayala, Echegaray. (*b*) A study of the significant works of the contemporary dramatists, especially Benavente, the Quintero brothers, Dicenta, Marquina and Martínez Sierra. Lectures and collateral readings. Primarily for seniors.

3 units, 1st semester (Espinosa) [Not given in 1914-15.]

21. Outline Course in the History of Spanish Literature.—Lectures with reading of important works and reports by the members of the class. Open to students who have completed course 18 or its equivalent.

2 units, both semesters (Allen) [Not given in 1914-15.]

22. Origins of Spanish Drama.—A history of the drama from the earliest times to its full development with Lope de Vega. Lectures and collateral reading.

2 units, 1st semester (Allen) TTh 8:15

23. Introduction to the Study of Old Spanish.—Reading and interpretation of old Spanish texts. Lectures on old Spanish Phonology and Morphology, with linguistic exercises based on El Cantar de mio Cid. Ford, Old Spanish Readings, Biblioteca de Autores Españoles, vol. LVII.

3 units, 1st semester (Espinosa) MWF 8:15

24. Old Spanish Ballads.—History of Spanish epic poetry from the cantares de gesta to the romances. Lectures, readings, and investigations on special topics. For graduates only.

3 units, 2d semester (Espinosa) [Not given in 1914-15.]

25. Elementary Italian.—Gaffino, A New Grammar of the Italian Language; Bowen, First Italian Readings. A continuous course open to all.

3 units, both semesters (Smith) MWF 9:15

26. Advanced Italian.—Dante, La Divina Commedia. Translation course open to students who have completed course 25.

3 units, both semesters (JOHNSTON) MTTh 2:30

27. Dante and the Divine Comedy.—Lectures, with assigned readings. Open to juniors and seniors in all departments.

2 units, 2d semester (JOHNSTON) [Not given in 1914-15.]

[Course 26 alternates with course 27.]

28. Teachers' Course in French.—Lectures on methods of teaching French, study of the available text-books, review of French grammar. Open only to advanced students.

2 units, 1st semester (JOHNSTON) [Not given in 1914-15.]

29. Romance Versification.—The fundamental principles of Romance verse structure, with particular attention to French and Spanish. Lectures and practical exercises. Open to seniors and graduates.

3 units, 2d semester (ESPINOSA) MWF 8:15

30. Introduction to the Study of Old French.—Reading of selected passages from Bartsch-Wiese, Crestomathie de l'Ancien Français (Leipzig, Vogel, 1908), with a study of Old French Phonology and Morphology.

3 units, 1st semester (JOHNSTON) MTTh 1:30

31. French Historical Grammar.—Lectures on Old French Phonology and Morphology.

2 units, 2d semester (JOHNSTON) MTh 1:30

32. Old French Literature.—Lectures, with assigned readings.

2 units, both semesters (JOHNSTON) W 1:30-3:30

33. Corneille.—Lectures, with assigned reading.

2 units, 2d semester (JOHNSTON) [Not given in 1914-15.]

34. Floire et Blancheflor.—A translation of the two Old French poems on *Floire et Blancheflor,* with lectures on the origin and growth of the legend.

2 units, both semesters (JOHNSTON) [Not given in 1914-15.]

35. Journal Club.—The instructors in the department and the advanced students meet regularly on alternate Fridays for the discussion of the periodicals and new books. F 2-3

ENGLISH LITERATURE AND RHETORIC

William Herbert Carruth, Raymond Macdonald Alden, Professors.
Lee Emerson Bassett, Associate Professor.
Samuel Swayze Seward, Jr., Howard Judson Hall, Henry David Gray, William Dinsmore Briggs, Everett Wallace Smith, Assistant Professors.
Theresa Russell, Edith Ronald Mirrielees, Van Wyck Brooks, Frank Ernest Hill, Elisabeth Lee Buckingham, Instructors.
Evelyn Wight Allan (Dean of Women), Margery Bailey, Acting Instructors.

Requirements for the Degree of Bachelor of Arts

a. The courses in Chaucer, Shakespeare, Milton (or Wordsworth), History of English Literature (course 32 in the third year, and English Philology 3 in the fourth year), besides such preliminary courses in vocal training, composition, or literature as may be requisite in each individual case.

b. English History. Students entering credited with Entrance English History are considered as having fulfilled this requirement.

c. A sound knowledge of at least one foreign language and its literature—ordinarily interpreted as requiring a minimum of 16 units in the chosen language, not including German 1 or French 1.

In general, students are encouraged to include among their elected studies Latin or Greek (not less than two years; or, in case Latin or Greek be selected to meet requirement *c* above, one modern foreign language), Anglo-Saxon, and a course in science, with laboratory work. Students preparing for journalism may substitute for the more advanced courses in literature, courses in Advanced Composition, History, Economics, and Social Science.

For each student in course *A*, except in the case of those who meet the requirement within a short time, a fee of $10 is charged.

The Teacher's Recommendation.—The High School Teacher's Certificate is granted by the State to students who have fulfilled the State requirements as set forth on pages 88-90 of the *Register*. Recommendation by the Department is granted by vote to students whose work in certain prescribed subjects has been of "high character." The undergraduate courses usually prescribed are—in the Department of English Literature: Vocal Expression, Composition, Shakespeare, Milton, Teachers' Course, and one course in the history of English liter-

ature; in the Department of English Philology: English Language and Chaucer. The graduate courses, to be chosen on consultation, should include not less than two units of work in the Department of English Literature and two units in the Department of English Philology for each semester's work taken.

Advanced Degrees

The preliminary requirements for entrance upon a course for an advanced degree in English are: (a) the course for the degree of A. B. or its equivalent; (b) an elementary knowledge of Anglo-Saxon; (c) a sound knowledge of two foreign languages (preferably one ancient and one modern language).

A candidate for the Master's degree in English Literature is expected to take within the year at least twenty-six units in courses (of whatever department) recognized as of advanced or graduate character. Of these units at least six must be graduate courses in English Literature and six must be graduate courses in English Philology. The Master's thesis may be credited (according to the judgment of the instructor under whose guidance it is being written) to the amount of one to five units a semester; but not more than four of such units in the year may apply toward the twelve units required in the two departments.

Preliminary and General Courses

[In general, courses 1-10 are open to first-year students; courses 11-20 are open to second-year students.]

A. Elementary Composition.—A one-semester course required of all first-year undergraduates except those who show themselves entitled to exemption.

1 unit, either semester (Mirrielees, Allan) Th 8:15, 9:15, 10:15

1a. Vocal Expression.—A study of the principles of expressive reading, and the vocal interpretation of masterpieces in prose and poetry, with supplementary work in voice development. As a requirement of the course each student is expected to memorize and vocally interpret 350 lines of Shakespeare during the semester. The course in Vocal Expression is open to a limited number of students in the order of their application. Application should be made before the first meeting of the class in the semester, and the instructor reserves the right to refuse to enroll students who do not appear at the first session of the class. Three sections.

3 units, either semester (Buckingham) MWF 8:15, 9:15, 11:15

1b. Reading Aloud.—Practice in the application of the fundamental principles of effective reading to varied types of literature. Prerequisite: course 1*a*.

2 units, either semester (BUCKINGHAM) TTh 9:15

2. English Composition.—Practical work in narration and description, first semester; in exposition, second semester. In two of the sections exposition is given in the first semester, and narration and description in the second. English majors are expected to enroll in section I (see schedule).

2 units, both semesters (CARRUTH, SEWARD, HALL, GRAY, BRIGGS, (SMITH, RUSSELL, HILL) TTh 8:15, 9:15, 10:15, 11:15

5. English Classics.—A study of representative works of great English writers from Malory to Browning, with assigned reading and writing. Open only to first-year students who are not English majors.

3 units, either or both semesters (MIRRIELEES) MWF 10:15, 11:15

6. Outline History of English Literature.—A survey, critical and historical, of English literature in its larger aspects, with readings. Designed primarily for English majors in the first year.

3 units, 1st semester (SEWARD) MWF 11:15

7. American Literature.—General survey of the history of American literature, with reading of selected representative works. For first-year or second-year students.

3 units, 2d semester (HALL) MWF 9:15

8. Introduction to Poetry.—The reading and interpretation of poetry; designed for general students.

3 units, 2d semester (ALDEN) MWF 11:15

9. Extemporaneous Speaking.—Practice in extemporaneous speaking on subjects of current interest, with some attention to the preparation of speech outlines. Three sections, first semester; one section, second semester.

2 units, either semester (BASSETT)
MW 9:15; T 1:30-3:30; Th 1:30-3:30

10. Tennyson.—A study of selected portions of Tennyson's poems, illustrating the growth of his literary art. A general course, designed for first-year students, and open to third-year and fourth-year students only by permission.

3 units, 1st semester (HALL) MWF 10:15

11. Vocal Interpretation.—*a*. An advanced course in the vocal in-

terpretation of literature. Designed particularly for those who intend to teach English literature. Prerequisite: courses 1*a* and 1*b*.

2 units, 1st semester (BASSETT) MW 1:30

b. Dramatic Literature (second semester). Scenes assigned from Shakespeare and from modern plays of literary merit. Members of the class will vocally interpret characters and scenes assigned for individual study. Prerequisite: course 11*a*.

2 units, 2d semester (BASSETT) MW 1:30

12. Advanced Composition.—Including both rapid writing and the preparation of long themes. Prerequisite: course 2.

3 units, both semesters (RUSSELL) MWF 9:15

13. News Writing.—Practice in abstracting and condensing, writing within time and space limits, copy-reading and headline writing; together with instruction in methods of gathering news and in the duties of the various members of a newspaper staff. Prerequisite: course 2.

2 units, both semesters (SMITH) TTh 11:15

14. Browning.—Not open to first-year students.

3 units, 1st semester (RUSSELL) MWF 11:15

15. Shakespeare.—The first semester's work consists of a rapid reading of a considerable number of the plays in chronological sequence. The second semester is devoted to a careful study of three or four plays. Open in the first semester to all second-year students; in the second semester to English majors and such others as show special interest and aptitude.

3 units, either or both semesters (GRAY, ALDEN) MWF 10:15

16. English Bible.—Representative portions of the Bible studied as literature, with some consideration of the history and the prose style of the English versions. Not open to first-year students.

3 units, 2d semester (RUSSELL) MWF 10:15

17. Essay Writing.—Preparation of magazine articles, criticisms, and papers of both informal and analytical character. Prerequisite: course 2.

2 or 3 units, 2d semester (RUSSELL) W 2:30-4:30

18. Practical Debate.—Under supervision of the Department, students who wish to do a prescribed amount of active debating and briefing of debates in connection with either of the debating societies, and

those students who make the practice squads for any intercollegiate debate, may receive credit, upon satisfactory completion of the work.

1 or 2 units, either or both semesters (BASSETT, HILL, OWENS)

19. Early Nineteenth Century Literature: 1798-1832.—A survey of English literature (exclusive of the novel) from the publication of the Lyrical Ballads to the death of Scott.

2 units, 1st semester (ALDEN) TTh 11:15

20. Victorian Literature.— (*a*) A survey of Victorian prose, with special emphasis upon Carlyle, Ruskin, and Arnold (first semester). (*b*) A study of selected Victorian poets (second semester).

2 units, either or both semesters (SEWARD) [Not given in 1914-15.]

ADVANCED AND SPECIAL COURSES

[Unless otherwise specified, the following courses are open to third-year and fourth-year students of all departments.]

21a. Public Speaking.—Practice in the preparation and delivery of speeches adapted to various audiences and occasions, with attention to the style of spoken discourse, based on a study of masterpieces of oratory. Prerequisite, course 9. Three sections.

2 units, 2d semester (BASSETT) MW 9:15; T 1:30; Th 1:30

21b. Public Reading.—A course in the preparation of poems, stories, and scenes from novels and plays for public presentation. Open to a limited number of advanced students by permission.

2 units, both semesters (BASSETT) M 2:30-4:30

22. Oral Debate.—Practice in the preparation and delivery of oral arguments, chiefly on current public questions. Open to a limited number of students who have taken or are taking course 24, to be admitted in the order of application.

2 units, both semesters (BASSETT, HILL) W 2:30-4:30

23. Technical Writing.—Open to advanced students of all departments wishing direction in preparing papers and theses.

Units to be arranged, 1st semester (HALL)

24. Argumentation.—The theory of argumentation, with practice in the preparation of briefs and forensics. Open to all students in the third and fourth years.

2 units, both semesters (BRIGGS, HILL) TTh 11:15

25. Short Story Writing.—Practice in the writing of short stories, and a study of the principles governing their composition. Open by permission to students in their third and fourth years.

2 or 3 units, both semesters (MIRRIELEES) T 1:30

26. Play Construction.—The principles of dramatic writing developed in connection with the student's own work, together with the critical analysis of certain successful plays of the present. Open by permission to advanced students.

2 units, 1st semester (GRAY) W 2:30

27. Current Newspapers.—The study and comparison of current daily newspapers with a view to observing their policies and ideals as shown in the news columns. Ordinarily English 13 should precede this course.

3 units, both semesters (SMITH) MWF 11:15

28. American Poetry, Exclusive of the Drama.—A study of the greater American poets with especial reference to their relation to English and Continental literature. [In 1915-16 attention will be directed especially toward the reception and standing of these poets in foreign countries.] Open to third-year and fourth-year students and graduates.

3 units, 1st semester (CARRUTH) MWF 10:15

29. National Epics.—Reading in translation of the Mahabharata, the Iliad, the Aeneid, the Shah-Nameh, the Niebelungenlied, the Song of Roland, the Beowulf, and the Kalewala. Open to third-year and fourth-year students and graduates.

3 units, 2d semester (CARRUTH) WF 10:15

30. Prosody and Verse Writing.—Study of lyric poems, with practical exercises in the same. Open to third-year and fourth-year (and by permission to second-year) students who have had four units in English composition.

2 units, 2d semester (CARRUTH) T 3:30

31. The English Drama to 1642.—The beginnings and development of the drama. Open to third-year and fourth-year students.

3 units, both semesters (BRIGGS) MWF 9:15

32. The Restoration and the Eighteenth Century.—From 1660 to 1740, the age of Dryden and the age of Pope, first semester. From 1740 to 1798, the age of Johnson and the early Romantic revival, second semester.

3 units, both semesters (ALDEN, HALL) MWF 11:15

33. Milton.—Open to third-year and fourth-year students of all departments.

2 units, 1st semester (BRIGGS) TTh 10:15

34. Wordsworth.—Open to third-year and fourth-year students of all departments.

2 units, 1st semester (HALL) [Not given in 1914-15.]

35. Introduction to Comparative Literature.—An exposition of the comparative method in literary study, with a survey of the distribution of types in world literature. Open to the third-year and fourth-year students who have had not less than ten units in English literature.

2 units, 1st semester (CARRUTH) TTh 10:15

36. The History of Prose Fiction.—Including the beginnings of English fiction to DeFoe. Open to third-year and fourth-year students.

3 units, 1st semester (CARRUTH) [Not given in 1914-15.]

37. English Fiction.—A course in the history of English fiction, from DeFoe through the major novelists of the nineteenth century. Open to third-year and fourth-year students.

3 units, 1st semester (GRAY) [Not given in 1914-15.]

38. The Modern Novel.—The reading of one novel a week, supplemented by lectures covering additional works of the authors studied and some account of other important novelists of the time. Open to students in the third and fourth years.

3 units, 2d semester (GRAY) [Not given in 1914-15.]

39. The Modern Drama.—A study of certain significant dramas of Ibsen, and of contemporary dramatists. Open to students of all departments in the third and fourth years.

3 units, 1st semester (GRAY) MWF 9:15

40. The Romantic Revival.—A study of the development of English romanticism during the eighteenth century. Open to seniors and graduates.

2 units, 2d semester (HALL) [Not given in 1914-15.]

42. Teachers' Course in English.—A study of the methods of teaching Composition (first semester) and Literature (second semester) in secondary schools. Open to students in the senior year.

2 units, both semesters (SEWARD) T 1:30-3:30

GRADUATE COURSES

43. Tragedy.—A comparative study of the theory and practice of tragedy in various literatures. For graduates and advanced undergraduates.

3 units, 1st semester (ALDEN) W 3:30

44. Comedy.—An inquiry into the nature of the comic and into its literary uses, as exemplified especially in the drama.

2 units, 2d semester (SEWARD) MW 11:15

45. The English Lyric.—A study of the several forms of English lyrical poetry, each in its historical development.
2 units, 2d semester (GRAY) M 3:30

46. Shakespeare.—A critical study of one or more plays.
2 units, 1st semester (GRAY) T 3:30

47. Shakespeare's Sonnets.—A critical study.
2 units, 2d semester (ALDEN) T 2:30

48. Jonson.—Open also to properly prepared fourth-year students.
2 units, both semesters (BRIGGS) F 1:30

49. Marlowe.—Open to properly prepared fourth-year students and to graduates.
2 units, 2d semester (BRIGGS) [Not given in 1914-15.]

50. Tennyson.—The Idylls of the King compared with their sources. Open to graduates and to fourth-year students of the English or of the Romanic Languages Department.
2 units, 1st semester (CARRUTH) W 1:30

51. The Hildebrand Theme in General Literature.—A study of the source and migration of epic themes. Open to graduates and to fourth-year students in any language department.
2 units, 2d semester (CARRUTH) W 1:30

52. Journal Club: Literary Section.—Reports on current literature by the members of the course.
1 unit, both semesters (CARRUTH) F 3:30

COMPARATIVE LITERATURE

The following courses offered by the various departments of literature in the University pursue the comparative method and contribute to a survey of the literature of the world and the relations of the several literatures to one another. English majors are advised to elect as many as possible of these courses. Detailed description and the conditions of election are given under the respective departmental announcements.

INTRODUCTION TO COMPARATIVE LITERATURE. [English 35.]
THE ENGLISH BIBLE. [English 16.]
GREEK LITERATURE. [Greek 6.]
LATIN LITERATURE. [Latin 33.]
EARLY ENGLISH LITERATURE. [English Philology 3.]
HISTORY OF GERMAN LITERATURE. [German 13.]
FRENCH LITERATURE OF THE 19TH CENTURY. [Romanic Languages 9.]
EARLY 19TH CENTURY LITERATURE. [English 19.]

National Epics. [English 29.]
The Greek Epic. [Greek 20.]
The Hildebrand Theme. [English 51.]
Dante and the Divine Comedy. [Romanic Languages 27.]
Chaucer. [English Philology 2 and 8.]
Tennyson: the Sources of the Idylls of the King. [English 50.]
The History of Prose Fiction. [English 36.]
English Fiction. [English 37.]
The Romantic Revival. [English 40.]
The Modern Novel. [English 39.]
Modern German Novels. [German 5.]
The French Novel in the 19th Century. [Romanic Languages 13.]
The Development of Tragedy. [English 43.]
Comedy. [English 44.]
Greek Tragedy. [Greek 21.]
Roman Comedy. [Latin 8.]
The English Drama to 1642. [English 31.]
The Modern Drama. [English 38.]
Origins of the Spanish Theater. [Romanic Languages 27.]
The French Drama in the 19th Century. [Romanic Languages 12.]
Ballads and Lyrics of the 16th Century. [English Philology 9.]
The English Lyric. [English 45.]
Latin Seminary: Lyric Poetry. [Latin 22.]
Greek Sculpture. [Greek 22.]
Roman Art and Archaeology. [Latin 31.]
History of German Civilization. [German 21.]
Classical Influences in English Literature. [Latin 34.]
American Poetry in Relation to European. [English 28.]

ENGLISH PHILOLOGY

*Ewald Flügel, Professor.
Samuel Swayze Seward, Jr., Assistant Professor (Department of English Literature).
Arthur Garfield Kennedy, Instructor.

1. English Language.—An outline study of modern English in the light of its historical development. The first semester aims to give a sound elementary knowledge of Old English; the second deals with

*Deceased, November 14, 1914.

the conditions that have brought about the later stages of the language.
3 units, 1st semester; 2 units, 2d semester (SEWARD)
(1st sem.) MWF 8:15; (2d sem.) TTh 8:15.

2. Chaucer.—This course is an elementary one, and includes an outline of Middle English Grammar for the beginner. Open to Juniors who have a reading knowledge of (1) either French or Latin and (2) German. The course in Anglo-Saxon will be accepted as an equivalent for German. For special outside work an extra credit will be given.
2 or 3 units, 1st semester (FLÜGEL, KENNEDY) Th 3:30-5:20.

3. History of Early English Literature (to 1557).
3 units, 2d semester (ALDEN) TTh 1:30.

ADVANCED AND GRADUATE COURSES

In order to prepare the future high school teachers satisfactorily, candidates for the Teachers' Recommendation in English are expected to take, besides the work in Literature, a whole year's advanced work in English Philology. If properly prepared they will be admitted to the Seminary and other advanced courses during their senior year. Candidates for the Master's Degree are expected to do at least a year's post-graduate work in English Philology, for which a reading knowledge of German, French (old and modern), and Latin is a prerequisite.

4. Middle English Grammar.—(a) Phonology; (b) Morphology.
2 units (FLÜGEL) [Not given in 1914-15.]

5. Beowulf.
2 units, 1st semester (FLÜGEL) M 3:30-5:20.

6. English Paleography.
2 units, both semesters (FLÜGEL) [Not given in 1914-15.]

7. Middle English Exercises.
2 units, 2d semester (KENNEDY) M 1:30-3:30.

8. Chaucer (advanced course).—Interpretation of the Prologue, the "Links," and lectures on the history of Chaucer criticism. Prerequisite: course 2 or its equivalent. Open to seniors of other departments. For special outside work an extra credit will be given.
2 or 3 units, 2d semester (KENNEDY) Th 1:30

9. Ballads and Lyrics of the Sixteenth Century.—[As "Teachers' Course," 3 units.]
2 units, 2d semester (BRIGGS) Th 3:30

10. History of English Philology.—Lectures.
2 units, 1st semester (FLÜGEL) [Not given in 1914-15.]

11. Seminary.—Papers and Lectures.
2 units, both semesters (Flügel, Kennedy) M 8:15

12. Journal Club: Philological Section.—Reports on current journals by instructors and graduate students.
1 unit, both semesters (Flügel) [Not given in 1914-15.]

BIBLICAL HISTORY AND LITERATURE

David Charles Gardner, Lecturer.
Augustus Taber Murray (Department of Greek), Theresa Peet Russell (Department of English Literature).

1. Life and Teaching of Christ.—A history of the life and times of Jesus, with a study of the four Gospels, an analysis of the Ethics of Jesus, and the application of his teaching to the life of to-day. Lectures, discussions, and papers.
1 unit, both semesters (Gardner) Th 1:30

Greek Testament.—The first semester will be devoted to the study of Mark and Luke; the second semester to the study of John. [Greek 12.]
2 units, both semesters (Murray) TTh 11:15

English Bible.—Representative portions of the Bible studied as literature, with some consideration of the history and the prose style of the English versions. Not open to first-year students. [English 16.]
3 units, 2d semester (Russell) MWF 10:15

PHILOSOPHY

Henry Waldgrave Stuart, Professor.
Harold Chapman Brown, Assistant Professor.

[Courses 1 and 6 only are open to first-year students.]

1. Elementary Logic.—The principles of Deductive and Inductive Logic, with special attention to the important types of fallacy.
3 units, 1st semester (Stuart, Brown) MWF 9:15

2. Elementary Ethics.—The ethical meaning of Goodness and Badness, the rise and development of the distinction in the experience of

the individual, and the working principles upon which goodness of conduct and character depends.

3 units, 1st semester (STUART) MWF 10:15

3. History of Philosophy.—The development of philosophical theories from the early Greek period to the end of the eighteenth century in Germany, with a brief outline of philosophical problems in the nineteenth century. Attention will be given throughout to the relations of philosophy with social and political conditions and with science, literature, and religion.

3 units, both semesters (BROWN) MWF 8:15

4. Philosophy of the Nineteenth Century.—The development of philosophical problems and theories since Kant, in France, Germany, and England will be studied with special reference to the change of intellectual outlook initiated toward the end of the century by developments in the sciences.

3 units, 2d semester (BROWN) MWF 11:15

6. Advanced Logic.—Methods of investigation in use in the natural and social sciences, and the cardinal assumptions and principles on which these methods are based. Prerequisite: course 1 or an equivalent.

3 units, 2d semester (STUART) MWF 9:15

7. The Social Order and the Individual.—The nature of society and the types of social organization. Social authority and individual initiative. The political obligations of the individual and the ethical basis of political institutions. A continuation of course 2; open on approval to students otherwise qualified.

3 units, 2d semester (STUART) [Not given in 1914-15.]

8. Modern Scientific Conceptions of Nature and Mind.—A study of current views of cosmic structure and the place of man and his activities in nature, in the light of recent developments in physical chemistry, evolutionary biology, and psychology.

3 units, 2d semester (BROWN) TTh 11:15

9. Outlines of General Philosophy.—Lectures and assigned readings. Prerequisite: six units of credit in the department or fourth-year standing with approval.

2 or 3 units, both semesters (STUART) TTh 8:15

10. Seminary.—Selected topics, in conference.

(STUART, BROWN) By arrangement

PSYCHOLOGY

FRANK ANGELL, LILLIEN JANE MARTIN, Professors.
JOHN EDGAR COOVER, Assistant Professor and Research Fellow in Psychic Phenomena.

1. General Psychology.—Lectures and exercises. Open to first-year students by permission. Titchener's Text-book of Psychology is used as a book of reference.
4 units, 1st semester (ANGELL) MTWTh 11:15

1a. Mental Hygiene.—Especially for freshmen.
2 units, 1st semester (MARTIN) TTh 8:15

2. Laboratory Psychology.—Students are recommended to take this course in connection with courses 1, 1*a*, 3, and 4.
3 units, either or both semesters (MARTIN, ANGELL) TTh 1:30

2a. Laboratory Psychology.—In connection with Psychology 1 or its equivalent.
3 units, either semester (ANGELL) MWF 1:30

3. Abnormal Psychology.—Not open to first-year students except by permission.
2 units, 2d semester (MARTIN) TTh 8:15

4. Psychology of the Fine Arts.—Open to freshmen by permission.
2 units, 1st semester (MARTIN) MW 8:15

5. Advanced Laboratory Work.
3 units, both semesters (ANGELL, MARTIN) MWF 1:30

6. Space Perception.—Usually presupposes or accompanies course 5.
2 units, 2d semester (ANGELL) TTh 11:15

7. Psychological Literature.
1 unit, both semesters (MARTIN) By arrangement

8. Psychology of Thinking.—Open to those who have taken course 1 or course 3.
2 units, 2d semester (MARTIN) By arrangement

9. History of Psychical Research.
2 units, 2d semester (COOVER) TTh 10:15 by arrangement

10. Psychical Research Laboratory.
2 units, 2d semester (COOVER) TTh 1:30-4:30 by arrangement

11. Mind and Body.—Course 1 prerequisite.
3 units, 2d semester (COOVER) MWF 10:15

12. Research Work.
(ANGELL, MARTIN) By arrangement

EDUCATION

Ellwood Patterson Cubberley, Professor.
Percy Erwin Davidson, Rufus Clarence Bentley, Lewis Madison Terman, Associate Professors.
Jesse Brundage Sears, Assistant Professor.
Morris Elmer Dailey, George Archibald Clark, Lecturers.
J. Harold Williams, Research Fellow on the Buckel Foundation.
Effie Izah Hawkins, Graduate Assistant.
Edith Naomi Bentley, Assistant, Education Library.

The Department of Education offers four main lines of work:

1. Courses of a general nature on the history, function, and administration of public education, intended in part as information courses for the general university student and without reference to the work of teaching. To such students the courses of Groups I and III are recommended.

2. Courses intended to assist other departments in preparing their students for work in secondary schools. All such students should confer with members of the Department of Education as to courses, but in general courses 1, 2, and 7 are recommended, if the candidate has not had experience in teaching. Three units of work in courses relating to secondary-school work are required under the regulations of the California State Board of Education for the high school teacher's recommendation, as are courses 12 and 13, if the candidate has not had previous experience in teaching. (For a more detailed statement, see pp. 88-90.)

3. Courses primarily for major students, or those making Education a minor, and intended to give special preparation to (*a*) those who desire to become teachers of Education in normal schools or colleges, (*b*) those who wish to prepare for supervisory or administrative positions in the public schools, elementary or secondary, and (*c*) those who wish to prepare for special educational work in the elementary or secondary field.

4. Courses and research work in the psychology and pedagogy of exceptional children. Two lines of work are offered in this field: (*a*) elementary courses designed to give prospective superintendents and principals a general acquaintance with the problems of special education, and (*b*) research courses for the advanced student who looks forward to work as clinical psychologist in the public schools or in institutions for defectives or delinquents. The Dr. C. Annette Buckel Foundation, supplemented by additional support from the Board of

Trustees of the University, has provided for a "research fellowship in the psychology and pedagogy of backward children."

5. Courses for the preparation of teachers of drawing for the public schools, and for the general training of college students in artistic perception and graphic expression. (See sub-department of Graphic Arts.)

The courses in Education are open to all students as electives or as minor subjects, but only those who desire to prepare for one of the lines of work mentioned above under (3) or (4), and whose preparation and experience are satisfactory to the Department, will be accepted as major students. In special cases those without teaching experience may be accepted as major students, but all such must register for courses 17 and 18 as soon thereafter as arrangements can be made.

Major Requirements

Major students begin their work in Education with the sophomore year, taking courses 1 and 2. Psychology 1 and 2*a* should also be taken this same year. For graduation in Education students will be expected to have completed 30 units in the Department, including practice in teaching. This should ordinarily include courses 1, 2, and 3, one advanced course listed under group IV, and sufficient other courses listed under groups I, II, or III to make up the required units. For students in the sub-department of Graphic Arts, 15 units of Education proper will be required. Zoology 1, Botany 1, or Physiology 1, and the course in Bionomics, should also be taken early in the student's course. Other collateral work will be advised to meet individual needs. Students coming with advanced or graduate standing from other universities, where the curriculum does not parallel that offered here, may have substantially equivalent preparation or experience accepted in lieu of the courses required here.

The requirements for the baccalaureate degree cover only introductions to the different fields of Education, and it is assumed that those proposing to offer themselves for responsible positions in educational work, such as those indicated under 3, above, will proceed at once to the Master's degree. For this at least 20 units in advance of the baccalaureate requirements, together with the presentation of a satisfactory thesis, will be required. At least three-fourths of the 20 units must be work listed under Groups III and IV. The completion of the first year of graduate study should mean a somewhat general acquaintance with the different divisions of Education, together with the beginnings of specialization in some one of these.

During the second year of graduate study the student will be ex-

pected to attain a mastery of the literature and practice in two of the following divisions of the subject: (1) History of Education, (2) Theory of Education, (3) Administration of Education, (4) Educational Psychology, (5) Educational Hygiene. Students intending to proceed to the doctorate, either at once or later, should select one of these divisions as a major and one as a minor; complete in large part the required work in a second minor, outside of the Department; pass off the modern language requirements; and get well started on the dissertation.

Library and Practical Facilities

The general university library contains the important recent books, and files of the more important educational magazines, both American and foreign. The collection of early American educational magazines and reports is also good. The special library of the Department, consisting of about 7500 volumes, contains one of the most complete collections of American state and city school reports to be found in the United States, the library ranking third in this respect. It is also rich in old college and normal school catalogues and text-books, of much historical value. The collection of old and present-day school text-books is also large and valuable.

In practical facilities the department has good working connections with the State Normal School at San Jose, and with the public schools of the immediate vicinity. For more important studies by advanced students the large school systems in the vicinity of the University can be used, and a class of retarded pupils is available for careful systematic instruction and study.

The department is also provided with a research laboratory for use in connection with the Buckel Foundation. This is well equipped with the apparatus, blanks, and other materials used in mental and physical tests.

I. Elementary and Introductory Courses

[Open to any one with teaching experience, and to all others except first-year students.]

1. Public Education in America.—A study of the province and some of the more important problems of public education in the United States. An introductory course. Lectures, following a syllabus, with assigned readings.

2 units, 1st semester (Cubberley) TTh 10:15

2. Educational Theory.—An introductory course dealing with topics fundamental to education, such as the meaning of infancy, tradition,

heredity and environment, types of learning, the order of growth, character, etc. Lectures, following a syllabus, with assigned reading.
2 units, 2d semester (DAVIDSON) TTh 10:15

3. History of Education in Europe.—A study of the development of educational ideals and systems from the time of the Greeks and Hebrews to the present, with particular reference to the forces which have operated in the evolution of the various historic ideals and schools. The first semester (*3a*) covers the period up to the Reformation, and the second semester (*3b*) the period from the Reformation to the present. Either semester may be taken separately.
3 units, both semesters (SEARS) MWF 9:15

4. Primary Education.—A study of the history and institutions of the formal education of young children; provisions in other countries; the kindergarten in America; the reforms of Montessori and others; pedagogy of the primary-school period.
3 units, 1st semester (DAVIDSON) MWF 11:15

5. Social and Moral Education.—A study of the important facts and principles underlying social and moral education, as a basis for a criticism of current educational practice in this country and elsewhere. Prerequisite, General Psychology.
3 units, 2d semester (DAVIDSON) MWF 11:15

II. COURSES INTENDED PRIMARILY FOR THOSE PREPARING TO TEACH IN SECONDARY SCHOOLS

[Open to juniors, seniors, and graduate students. Course 17 should precede course 18 by one semester.]

7. High School Teachers' Course.—Intended to give elementary preparation for secondary school service. Open only to inexperienced prospective high school teachers of junior rank or above. Not for Education majors. Deals with the high school as an institution of local community.
3 units, either semester (BENTLEY) MWF 8:15

8. High School Advisers' Course.—Treats the vocational aspects of secondary school curriculum-making—the relation of high and intermediate school curriculum to individual career. For high school teachers and principals, and acceptable from Education majors for required credit in secondary education. Intended to prepare for expert service as departmental head-teachers, advisers, and principals.
2 units, 2d semester (BENTLEY) TTh 8:15

9. Principals' Course.—The organization and management of a high school. The principal's organizing and supervising function as distinguished from the work of the teacher or that of the superintendent. Open to students who have had other courses in secondary education.

2 units, 1st semester (BENTLEY) TTh 8:15

10. Special Teachers' Courses.—Vocational types of secondary schools. Either semester's work may be taken separately. Alternates with course 32.

a. Technical, commercial, and industrial schools. For prospective teachers and principals of special types of schools. Acceptable with Course II for required credit in secondary education.

2 units, 1st semester (BENTLEY) TTh 9:15

b. Rural, village, and agricultural high schools. For prospective teachers and principals. Acceptable with Course II for required credit in secondary education.

2 units, 2d semester (BENTLEY) TTh 9:15

11. Adolescence.—A survey of the subject with special reference to the needs of the students not majoring in Education who propose to teach in secondary schools.

2 units, 1st semester (TERMAN) [Not given in 1914-15.]

12. Method and Management of Instruction.—A practical course in class-room management and the theory of instruction. Intended as a preparatory course for those expecting to do practice teaching, and should be taken the semester preceding.

1 unit, either semester (SEARS) M 1:30

13. Practice in Teaching.—Actual practice in the handling of classes and the giving of instruction, with accompanying conferences, as required by the rules of the State Board of Education for a California High School Teacher's Certificate. This may be arranged for at the University, at the San Jose State Normal School, or at any other California State Normal School. Hours for teaching must be arranged in advance: (*a*) if at the University, with Professor BENTLEY; (*b*) if at the San Jose State Normal School, with President DAILEY. Conference with all practice teachers.

4 units, either semester (BENTLEY, DAILEY) M 4:30-5:30

III. More Advanced Courses, but of a Somewhat General Nature

[Open to teachers, and to third- and fourth-year students. In general, courses 1 and 2 should precede these courses. Course 3 should precede or accompany course 19.]

15. Physical Aspect of the Child.—This course will include a consideration of the following topics: growth in height and weight; growth of parts and organs; common abnormalities of eye, ear, nose, throat, spine, heart, lungs, and teeth; nervous disorders, speech defects, malnutrition, mortality, and mental deficiency; physiological aspects of sleep, work, play, and rest.

2 units, 1st semester (Terman) TTh 11:15

16. Educational Hygiene.—This course will deal with such topics as the history, methods, and results of medical inspection of schools; educational adaptations for defectives; the hygiene of gradation and promotion; the number and length of school sessions; the hygiene of the school subjects; the hygienic supervision of athletics; the playground movement; hygienic aspects of co-education; the status of hygiene teaching in the schools; heating, lighting, ventilation, and the care of school buildings.

2 units, 2d semester (Terman) TTh 11:15

17. Elementary Education.—A course dealing with the institutional and instructional aspects of the elementary school, with particular reference to the content and the use of the course of study. Intended for prospective teachers and supervisors in the elementary school.

2 units, both semesters (Sears) TTh 9:15

18. Logic of Education.—A study of the significance for education of the theory of knowledge and the psychology of thinking. Prerequisite, General Psychology.

3 units, 1st semester (Davidson) MWF 10:15

19. Sources for the History of Education.—A more extensive and intensive study of the sources for the History of Education than is undertaken in connection with courses 3 or 4. Systematic readings, intended primarily to prepare for the teaching of the subject.

2 units, 2d semester (Cubberley) [Not given in 1914-15.]

20. State School Administration.—A study of the educational principles underlying the proper administration of school systems in states and counties, and involving a comparative study of the school laws and school systems of the various American states. The course includes a study of such topics as federal and state policy, forms of control,

revenue and its apportionment, the state and the teacher, the state and the child, private and sectarian education, and state oversight and control.

2 units, both semesters (CUBBERLEY) TTh 11:15

22. Educational Problems.—A discussion club. Open on invitation.

1 unit, each semester (CUBBERLEY) Alt. W 7:30-9:30

IV. Advanced and Special Courses

[Intended primarily for teachers of some experience, and for students making Education a major or a minor. Open to such, of junior standing or above.]

25. Educational Psychology.—Original endowment; general mental growth; development of the special mental functions; individual differences in relation to heredity, sex, and environment; habit formation and the psychology of learning; formal discipline; fatigue and mental economy.

3 units, both semesters (TERMAN) MWF 11:15

26. History of Education in America.—A more advanced course than course 3, and dealing with selected problems in the history and present condition of education in the United States. [Not given in 1914-15.]

2 units, both semesters (CUBBERLEY)

27. City School Administration.—A study of the educational, financial, and administrative principles underlying the proper administration of school systems in cities, with a view to the establishment of principles of action. A thesis on some problem in city school organization or administration required the first semester; and a survey of a city school system required the second semester.

3 units, both semesters (CUBBERLEY) W 3:30-5:30

28. Criticism and Supervision of Instruction.—A few advanced students, who have had sufficient teaching experience, will be allowed to undertake the personal investigation, in the schools of the vicinity, of problems in instruction or supervision. Collateral reading and detailed written reports will be required. Enrollment only after conference with the instructor concerned.

1 unit, either semester (BENTLEY, DAVIDSON, SEARS)

29. School Administration Practice.—A laboratory course in school administration practice, dealing with the office and supervisory work of principals of elementary schools and superintendents of schools. Visits will be made to school systems in the vicinity of the University.

2 units, 2d semester (CUBBERLEY) [Not given in 1914-15.]

30. The Training of Teachers.—This course deals with the organization of normal schools and the professional preparation of teachers, and is primarily intended for those entering on the work of training and supervising teachers.

2 units, 2d semester (CUBBERLEY) TTh 10:15

31. Rural Education.—A course dealing with the social and economic factors in the development of rural institutional life; how these explain the present status of the larger administrative and supervisory problems of rural education; and the principles and practical methods essential to their solution. As a part of the work of this course each student will be expected to complete an educational survey of an assigned county, or rural section. Open to advanced students in educational administration.

2 units, both semesters (SEARS) T 2:30-4:30

32. Foreign School Systems.—A comparative study of the more important foreign state school systems, their policy of organization, ideals of work, methods of instruction, training of teachers, courses of study, statistics, and recent reforms. Different national systems will be studied each year.

2 units, both semesters (BENTLEY) [Not given in 1914-15.]

33. Experimental Pedagogy.—A survey of the investigations bearing upon the pedagogy of the elementary school subjects and the methods of testing results. Prerequisites: Elementary Education, Statistical Method, and General and Experimental Psychology.

3 units, both semesters (DAVIDSON) Th 3:30-4:30

34. The Psychology of Exceptional Children.—Case studies of types of exceptional children found in the schools, with special reference to mentally defective and supernormal children.

2 units, 1st semester (TERMAN) S 10:30-12:15

35. The Mental Examination of Children.—This course is devoted mainly to a study of the Binet-Simòn intelligence tests. Demonstrations and practice.

2 units, 2d semester (TERMAN) S 10:30-12:15

36. The Psychology of Endowment.—A seminar course for the critical review of experimental literature such as that covered in Meumann's Psychology of Endowment (Experimentelle Pädagogik, II). Open to graduate students who have had laboratory training in psychology.

2 or 3 units, both semesters (TERMAN) By arrangement

40. Thesis Work.—In certain courses, students may be given an additional hour of credit on presentation of a satisfactory thesis on an assigned topic embodying the results of independent work. The consent of the instructor is necessary before registering.

1 unit, either semester

41. Special Courses.—Special work in independent investigations may be provided for students prepared to do advanced work, the nature of the investigation being determined by the student's preparation and needs. Candidates for advanced degrees will ordinarily register their thesis under this course, the number of units of credit being subject to individual arrangement. The members of the instructing staff stand ready to supervise independent investigations in the following fields:

(*a*) History and organization of American Education, and problems in state and city school administration. (CUBBERLEY)

(*b*) Problems in educational theory and elementary instruction. (DAVIDSON)

(*c*) Problems in rural education. (SEARS)

(*d*) Problems in the organization and administration of secondary education. (BENTLEY)

(*e*) Problems in mental development, and in child and school hygiene. (TERMAN)

V. Courses for Teachers of Special Subjects

The following special courses of instruction, and groupings of courses, designed to prepare teachers for special work in the public schools, are open as electives to majors in other departments, or may be taken in conjunction with a major in Education.

1. Commercial Teachers' Training Course

A. Commercial Teachers' Training Course.—A demonstration course in the teaching of shorthand and typewriting, supplemented by discussions and illustrations in the treatment of English, geography, arithmetic, law, and other collateral subjects, the object being to demonstrate a working plan for handling commercial subjects in the high school. Open to junior and senior students intending to take up teaching. One hour of instruction and two hours of practice, three times weekly.

3 units, both semesters (CLARK) MWF 1:30

2. Manual Arts Teachers' Course

This curriculum is designed to prepare teachers of the manual arts for work in polytechnic high schools. The full curriculum requires a

minimum of 28 units of work, or a minimum of 22 units if preparation in Foundry Work and Pattern Making is omitted. The courses marked with the asterisk are essentials.

*1. Woodworking.—[Mech. Eng. 5.] 2 or 3 units, either semester.

*2. Forge Work.—[Mech. Eng. 1*a* and 1*b*.] 3 units, either semester.

*3. Machine Shop Work.—[Mech. Eng. 7*a* and 7*b*.] 3 units, either semester. (Presupposes Forge Work.)

4. Foundry Work.—[Mech. Eng. 3*a* and 3*b*.] 3 units, either semester.

5. Pattern Shop Work.—[Mech. Eng. 6*a* and 6*b*.] 3 units, either semester. (Presupposes Woodworking and Foundry Work.)

*6. Freehand Drawing.—[Graphic Art.] 3 units, each semester.

*7. Linear Drawing and Lettering.—[Engineering 1*b*.] 1 unit, either semester.

8. Descriptive Geometry.—[Engineering 1*b*.] 1 unit, 1st semester. (Presupposes Algebra, Geometry, and Linear Drawing and Lettering.) 4 units, 2d semester.

*9. Elementary Machine Drawing.—[Mechanical Eng. 11.] 2 or 3 units, either semester. (Presupposes Freehand Drawing, Linear Drawing and Lettering, and Descriptive Geometry.)

This course will take a part of a student's time for two years to complete. If begun in the senior year it can be completed at the same time the Teacher's Recommendation is ordinarily obtained. The best arrangement of the work will be as follows:

Courses	1st Sem.	2d Sem.	3d Sem.	4th Sem.
*Woodworking	2-3	..	..	..
*Linear Drawing and Lettering	1	..	..	..
Descriptive Geometry	1	4	..	..
Foundry Work	3	..	..	.
Pattern Shop Work	..	3	..	..
*Freehand Drawing	..	..	3	3
*Forge Work	..	..	3	..
*Machine Shop Work	..	..	..	3
*Machine Drawing	..	..	..	2-3
Minimum units	7	7	6	8

3. Physical Training Directors' Course

This curriculum is designed to prepare students to teach physical training and to direct a gymnasium in connection with a public or private secondary school or a Y. M. C. A., or to supervise municipal playground work. It is possible to complete this course in two years,

but the best arrangement will be to divide the work over three years. The major subject may be in Zoology or Education, in which case other work in the department will be expected to meet major requirements, or the major may be elsewhere and the course be carried as a teaching minor. For an outline of the work for men and women, see under Physical Training and Personal Hygiene.

VI. Courses in Other Departments

The following Teachers' Courses in other departments are designed for students preparing to teach these special subjects in secondary schools. Such courses are usually necessary for the departmental recommendation, but do not count again as part of the units required in Education for a Teacher's Certificate.

a. Teacher's Course in Greek.—[See Department of Greek.]
b. Teacher's Course in Latin.—[See Department of Latin.]
c. Teacher's Course in German.—[See Department of Germanic Languages.]
d. Teacher's Course in French.—[See Department of Romanic Languages.]
e. Teacher's Course in English.—[See Department of English.]
f. Teacher's Course in History.—[See Department of History.]
g. Teacher's Course in Drawing.—[See Sub-Department of Graphic Art.]
h. Teacher's Course in Elementary Physics.—[See Department of Physics.]

GRAPHIC ART

Arthur Bridgman Clark, Associate Professor.
Henry Varnum Poor, Assistant Professor.
Chloe Lesley Starks, Instructor.

The work offered aims to meet the needs of three classes of students: students who wish training in artistic perception and graphic expression for its general culture value; students who wish to begin professional art study while receiving other university training; and technical students to whom knowledge of representative drawing is essential.

Course 1 or its equivalent must precede all other courses excepting courses 6, 8, and 9. Technical courses may receive credit a second time when continued with sufficient skill.

For students making Graphic Art their major study the following is an average programme: Elementary Still Life (4 units), and Linear Drawing and Lettering (1 unit), or Still Life (2 units); Landscape (3 units), 1st semester; Organic Form (3 units); Color (2 units); Perspective (2 units). Total, 10 to 12 units the first year.

Design (6 units); Handicraft (4 units); Lectures (4 units). Total, 14 units the second year.

Life (5 units); Color (5 units); Teachers' course (3 units). Total, 13 units the third year.

Illustration or Landscape (10 units); Handicraft (4 units). Total, 14 units the fourth year.

The TEACHER'S RECOMMENDATION.—The minimum requirement for the High School recommendation in Graphic Art is course 1 (3 units); chosen from courses 2, 3, and 5 (6 units); courses 10 and 11 (3 units each); course 13 (4 units). Total, 19 units.

1. **Elementary Drawing.**—Introductory course; still-life and drawing in the arcades in charcoal and color. Open to all students.

2 to 4 units, either semester (STARKS) TWThF 1:30-4:30

2. **Drawing of the Head** (elementary).

3 to 5 units, either semester (POOR) MTWTh 1:30-4:30

3. **Drawing of the Head** (advanced).—A continuation of course 2 from life. Open to second-year students.

3 to 5 units, either semester (POOR) MTWTh 1:30-4:30

4. **Color.**—Still-life painting in oils. Open to students with credit for four units of drawing.

2 to 5 units, either semester (POOR) By arrangement

5. **Landscape.**—Outdoor work. Charcoal, colored crayon, or oil paint is used in accordance with the capacity and needs of each student.

3 units, 1st semester (CLARK) MTW 1:30-4:30

6. **Lectures.**—Ideals and processes in pictorial and applied art. (First semester) Masters of the Renaissance; (Second semester) Nineteenth century and living painters. Open to all students.

2 units, either or both semesters (CLARK) TTh 10:15

7. **Organic Form.**—Drawing shells, leaf sprays, animal forms, and landscape with reference to decorative elements. The course is conducted primarily as a preparation for design.

2 units, 2d semester (CLARK) ThF 1:30-4:30

8. **Scientific Perspective.**—A series of problems involving the mathematical principles of perspective, and the application of these

principles to actual buildings and objects. [Course 8 is offered in alternate years; given in 1914-15.]

2 units, 2d semester (CLARK) TTh 11:15

9. Science Drawing.—A course designed to assist students in scientific illustration. It includes the drawing of simple scientific subjects in pen outline, line and stipple shading, wash, and line and wash. Especial attention will be paid to the needs of individual students. Open to science students on advice.

2 units, either semester (STARKS) TWThF 11:15

10. Teachers' Course.—For intending teachers and supervisors of drawing. Consisting of lectures upon methods and aims in school curricula and in the practical work of preparing courses of study. Open to advanced students only. [Offered in alternate years; given in 1914-15.]

3 units, 2d semester (CLARK) TTh 9:15

11. Design.—(First semester) Exercises in the principles of abstract design, decorative design, and the handicrafts generally. (Second semester) Application of the principles to house planning and interior household fittings. [Second semester not given in 1914-15.]

3 units, either or both semesters (CLARK) MTW 1:30-4:30

12. Illustrating.—Practice in application of life drawing to specific purposes. Must be preceded by course 3.

1 unit, both semesters (POOR) F 1:30-4:30

13. Handicraft.—Exercises in textiles, leather, metal work, pottery, etc. To follow or accompany course 11.

2 or 3 units, either semester (CLARK) MTW 1:30-4:30

4. Seminary.—Modern Art.

1 unit, both semesters (CLARK, POOR, STARKS) T 4:30-5:30

HISTORY

EPHRAIM DOUGLASS ADAMS, ARLEY BARTHLOW SHOW, EDWARD BENJAMIN KREHBIEL, Professors.

PAYSON JACKSON TREAT, HENRY LEWIN CANNON, Associate Professors.

EDGAR EUGENE ROBINSON, †PERCY ALVIN MARTIN, Assistant Professors.

†YAMATO ICHIHASHI, Instructor.

DAVID STARR JORDAN, Lecturer.

†Absent on leave, first semester, 1914-15.

The Teacher's Recommendation.—To obtain a Teacher's Recommendation in History the applicant must have completed, in a manner acceptable to the Department, three of the courses, 3, 4 (or 11*a* or 11*b*), 5, 6, and 7, one advanced course (throughout one year), and the Teachers' Course in History (History 16).

Introductory Courses

1. Historical Training Course.—A practical course in the finding and handling of historical material. Required of, and limited to, first-year History majors.

1 unit, 2d semester (Martin) T 8:15

[History of Greece.—See Greek 16.]

[History of Rome.—See Latin 29.]

[Studies in Roman History.—See Latin 30.]

3a. The Early Middle Ages, 395-1095.—A general course, open to all students.

3 units, 1st semester (Show) MWF 10:15

3b. The Later Middle Ages, 1095-1492.—A continuation of course 3*a*. Open to all students who have had course 3*a* or a satisfactory equivalent.

3 units, 2d semester (Show) MWF 10:15

4a. English History to 1603.—General outline course, open to a limited number of first-year students.

3 units, 1st semester (Cannon) MWF 10:15

4b. English History from 1603 to the present time.—A continuation of course 4*a*.

3 units, 2d semester (Cannon) MWF 8:15

5a. Modern European History, 1500-1715.—A general outline course. Not open to first-year students.

2 units, 1st semester (Krehbiel) TTh 9:15

5b. Modern European History since 1715.—A continuation of course 5*a*.

2 units, 2d semester (Krehbiel) TTh 9:15

6a. American History, 1607-1760.—A study of the English colonization of the Atlantic Seaboard and of the westward movement of colonists of the British Empire. An introductory course open to students of all departments.

3 units, 1st semester (Robinson) MWF 10:15

6b. American History, 1760-1815.—A study of the Revolution and the Constitution. Particular attention is paid to western migration, the development of frontier areas, and the influence of the West on national affairs. A continuation of 6*a*.

3 units, 2d semester (Robinson) MWF 10:15

7. United States History since 1815.—Open to students who have had one course in history.

2 units, both semesters (Adams) TTh 10:15

8a. History of Japan.—A survey of, and an attempt to interpret, the history of ancient and mediaeval civilization of Japan. Not open to first-year students.

3 units, 1st semester (Ichihashi) [Not given in 1914-15.]

8b. History of Japan.—A critical examination of the more important phases of modern civilization of Japan (since 1600). Open to students who have had course 8*a*, and to others by special permission.

3 units, 2d semester (Ichihashi) MWF 9:15

9a. The Far East.—An account of the relations between Western nations and the peoples of Eastern Asia. The history of the Portuguese, Dutch, and British possessions in the Far East. Not open to first-year students.

3 units, 1st semester (Treat) MWF 11:15

9b. The Far East.—China, Indo-China, Japan, the Philippines. Not open to first-year students.

3 units, 2d semester (Treat) MWF 11:15

10. History of Latin America.—An outline course dealing with the colonial expansion of Spain and Portugal in America and with the political, social, and industrial development of the leading republics of Latin America. Open to all students.

3 units, 2d semester (Martin) MWF 11:15

Intermediate Courses

11a. English Constitutional History.—The course attempts to explain the development and operation of the present English constitution as well as to give the background for American constitutional history. Not open to first-year students.

2 or 3 units, both semesters (Cannon) TTh 8:15

11b. English Narrative History.—An intensive course. Open to a limited number of other than first-year students.

4 units, both semesters (Cannon) TWThF 10:15

12. History of Germany.—General outline course. Not open to first-year students.

3 units, both semesters (MARTIN) [Not given in 1914-15.]

13a. The Ancient Church.—A general course in Church History from the Apostolic Age to Gregory the Great (A. D. 1-590), with special reference to its connection with the general movements of the age. Open to all except first-year students.

2 units, 1st semester (SHOW) [Not given in 1914-15.]

13b. The Mediaeval Church.—A continuation of course 13*a*, to the end of the Crusades and the beginning of the church reform movement.

2 units, 2d semester (SHOW) [Not given in 1914-15.]

14. The Italian Renaissance.—Lectures on the politics, art, and culture of Italy during the fourteenth and fifteenth centuries. Open to third- and fourth-year students who have taken courses 3*a* and 3*b* or an equivalent.

2 units, both semesters (SHOW) [Not given in 1914-15.]

14b. Origins of the German Constitution.—A critical examination of the successive steps in the creation of the German imperial system, from the abolition of the old empire (1806) to the adoption of the present Constitution (1871); based on direct study of the documents. Open to juniors, seniors, and graduates.

2 units, 2d semester (SHOW) TTh 10:15

15a. The French Revolution and Napoleon.—A lecture course. Discussions, investigations, and reports form a part of the work. Open to students who have had course 5*b*, or an equivalent.

3 units, 1st semester (KREHBIEL) MWF 9:15

15b. Europe in the Nineteenth Century.—A very considerable portion of this course is devoted to contemporary politics in Europe. The course is intended for third- or fourth-year students who are prepared to make independent investigations and reports upon present day affairs in Europe. Prerequisite: 5*b* or an equivalent.

3 units, 2d semester (KREHBIEL) [Not given in 1914-15.]

16. Teachers' Course.—Lectures, recitations, and practice dealing with the problems of history teaching in elementary and secondary schools.

2 or 3 units, both semesters (SHOW) TTh 2:30

17a. The Westward Movement.—A survey of the expansion of the American people into the Mississippi Valley and the American occupation of California and the Pacific Northwest. Open to third- and

fourth-year students who have a satisfactory knowledge of American History.

2 units, 1st semester (Robinson) TTh 10:15

17b. History of the Far West.—A study of the growth and development of the Trans-Mississippi Region; its political reorganization and its influence upon national and international affairs. Open to students who have taken *17a*.

2 units, 2d semester (Robinson) TTh 10:15

18a. The Development of the Republican Party in Massachusetts.—Search for library material, and use of manuscripts, bearing on the Free Soil movement of 1848, and the gradual merging of all anti-slavery interests in the Republican Party.

3 units, 1st semester (Adams) MWF 11:15

18b. American and English Relations During the Civil War.—Use of British and American documentary material. Open to third-year students who have taken general courses in English and American history. The documents are selected by the instructor, and the course is intended to furnish training in the interpretation of documentary material.

3 units, 2d semester (Adams) MWF 11:15

19a. History of Mexico and California.—A somewhat detailed study of the History of Mexico up to the present time and the History of California up to 1848. Open to those who have taken History 10 and to others with permission of the instructor.

2 units, 2d semester (Martin) TTh 11:15

19b. History of Brazil.—A somewhat detailed study of the History of Brazil up to the present time including a comparison of Brazilian political institutions with those of Spanish America and the United States. Open to those who have taken History 10 and to others with permission of the instructor.

2 units, 2d semester (Martin) [Not given in 1914-15.]

20. International Conciliation.—A course of lectures touching the effects of war and the possibility of substituting peaceful means of settling the differences of nations. Not open to first- and second-year students.

2 units, 2d semester (Jordan, Krehbiel) TTh 11:15

21. Tropical Colonization in the Far East.—A study of the present methods of the English, Dutch, French, German, and American peoples

in managing tropical dependencies in the Far East. Open to students who have taken courses 9*a* and 9*b*.

2 units, 1st semester (TREAT) TTh 9:15

22. History of Australasia.—An account of British colonization in Australia and New Zealand to the present time. Open to third-year students who have a satisfactory knowledge of English history.

2 units, 2d semester (TREAT) TTh 9:15

23. Governments of the Far East.—A study of the present governmental systems of China and Japan. Open to students who have taken course 9*b*.

2 units, 2d semester (TREAT) [Not given in 1914-1915.]

24. History of California.—A study of available materials. Independent investigation. Open to students who have taken 17*a*.

2 units, 2d semester (ROBINSON) By appointment

ADVANCED COURSES

[Intended primarily for graduate students, but open to advanced undergraduates, with permission of their instructors.]

26. Japanese Institutions.—A study of the development of Japanese institutions, political, social, economic, and religious. Assignment of topic to each student and thesis required.

2 units, 2d semester (ICHIHASHI) By appointment

27. Mediaeval Institutions.—A practical study of select documents in the field of German constitutional history. Ability to read Latin and German is required.

2 units, both semesters (SHOW) By appointment

28. Seminary in the History of the West.—Subject for 1914-15: Political Parties in the West.

2 units, both semesters (ROBINSON) M 2:30

29. Seminary in English History.—Subject for 1914-15: English Seamen; Irish Home Rule.

2 units, both semesters (CANNON) By appointment

30. Seminary in Latin American History.—Subject for 1914-15: Brazil.

2 units, 2d semester (MARTIN) By appointment

31. American Diplomatic History since 1815.—Open to students who have had course 18, and to others by special permission. Thesis required.

3 units, both semesters (ADAMS) TTh 3:30

32. Seminary in Modern European History.—Subject: History of Elections in Europe.

2 units, both semesters (KREHBIEL) W 2-4

33. Seminary in the History of American California.

2 units, both semesters (ROBINSON) T 7:30

35. Seminary in American-European Relations in Nineteenth Century.—Assignment of topic to each student and thesis required.

2 units, both semesters (ADAMS) By appointment

36. American Diplomacy in the Far East.—Open to students who have had course 9*b*.

2 units, both semesters (TREAT) M 2:30-4:30

ECONOMICS

AND POLITICAL SCIENCE

MURRAY SHIPLEY WILDMAN, ALBERT CONSER WHITAKER, Professors.

DONALD FREDERICK GRASS, †STEPHEN IVAN MILLER, JR., VICTOR J. WEST, Assistant Professors.

PAUL WANDER, WILLIAM EDWARD COX, JACOB ANTON DE HAAS, FREDERICK BENJAMIN GARVER, Instructors.

GEORGE ARCHIBALD CLARK, YAMATO ICHIHASHI, WILLIAM AMASA SCOTT, Lecturers.

FRANK MARION RUSSELL, Assistant.

GRADUATION.—To obtain recommendation for the degree of Bachelor of Arts in Economics a student is expected to secure credit for a mimimum of 30 units in this department. Of these, 9 units should be in courses listed as advanced courses.

A minimum of 12 units in the department is a prerequisite to registration in any advanced course.

In addition to the work in this department majors in Economics are expected to secure credit for about 40 units of specified courses in other departments. These courses should be chosen in consultation with the department adviser, and the work completed during the first two years if possible.

TEACHER'S RECOMMENDATION.—To obtain a Teacher's recommendation in Economics the applicant must have completed five of the following courses: 1, 2, 3, 4, 5, 8, 9, 20, 21, 22, 36, 37, 57, 63.

Course 1 or 1*a* is a prerequisite to every other course in the department, except when otherwise specified in the description of the course.

†Absent on leave, 1914-15.

ELEMENTARY AND GENERAL COURSES

1. Elements of Economics.—A general and introductory course. One lecture hour and two quiz hours each week. Majors of other departments, when juniors or seniors, may register for two units credit, omitting the lecture if necessary.

3 units, both semesters (WILDMAN, COX, DE HAAS, GARVER, RUSSELL) MWF 9:15

1a. Elements of Economics.—Covering the same ground as course 1 to accommodate students entering at mid-year. Not open for credit to those who have had credit in course 1.

5 units, 2d semester (WILDMAN) MTWThF 11:15

2. Elementary Accounting.—Development of accounting; theory of debit and credit; bookkeeping forms and practice; preparation of balance sheets and their interpretation; application of theory and principle to simple systems of accounts; practical accounting problems. Should be taken by students expecting to enter courses 20, 33, and 55.

3 units, 1st semester (GRASS) MWF 9:15

3. Resources and Trade of the United States.—A study of the resources on which American industries are based and those of foreign countries with which we have trade relations. Attention will also be given to problems of conservation and public control.

3 units, 1st semester (DE HAAS) MWF 8:15

4. Money and Banking.—The elements of monetary theory; the laws of coinage, legal tender, and credit; the standard of value, price movements and their relation to prosperity; the banking systems of the United States and of California.

4 units, 1st semester (WILDMAN) TWThF 9:15

5. Elements of Railway Transportation.—This course will cover the main problems of railways in the light of economic principles, and their wider significance to industry and society; the present American railway system and its development; railway finance, theories of rates, and methods of public control.

3 units, 2d semester (MILLER, COX) MWF 8:15

6. Introduction to Statistics.—A study of elementary statistical methods, and an examination of statistical data relating to selected social and economic problems.

3 units, 1st semester (COX) MWF 9:15

7a. Economic History.—A study of selected periods in the economic and social history of England.

3 units, 1st semester (COX, RUSSELL) MWF 8:15

7b. Economic History of the United States.—A study of selected topics in the history of American industrial development.

2 units, 2d semester (Cox, Russell) TTh 10:15

8. Introduction to Political Science.—An introductory study of the origin and nature of the state, forms of government, theories of state functions, citizenship, and political parties. Open to all those who have had or are taking Economics 1. After 1914-15 this course or its equivalent will be prerequisite for all other political science courses.

2 units, 1st semester (West) TTh 8:15

9. State and Local Government.—Township, county, and state government in the United States, with special attention to California. Prerequisite, course 8.

(West) [Not given in 1914-15.]

10. Bond Values and Capitalization.—A problem course in the application of the rate of interest to the valuation of income-bearing property. Future sum and present worth; the rate of discount and rate of interest; simple and compound interest; the present worth of commercial paper; the capitalized value of annuities; the valuation of bonds and shares on the basis of a given rate of interest; the construction and use of bond value tables; accrued interest; the nature of depreciation; depreciation funds in theory and practice; sinking funds; the principles of capitalized value applied to mines, forests, industrial plants, franchises, inventions, etc. The student's work will consist largely in the solution of assigned problems. No advanced mathematics required, and majors of other departments will be admitted without prerequisites. This course is a prerequisite to 20, Corporation Finance, and 60, Valuation.

4 units, 1st semester (Whitaker) MTWTh 10:15

11. Market Organization.—A study of the methods used in marketing the staple products; of the organized exchanges for cotton, wheat, and produce. Special attention will be given to the recent growth of co-operation.

2 units, 2d semester (de Haas) TTh 8:15

Intermediate Courses

20. Corporation Finance.—Elementary survey of corporation law; the organization and management of corporations; the corporation's securities, stocks and bonds and their classification; the stock market and stock speculation; capitalization, surplus, reserve, and financial

policy; the provision of new capital; promotion, underwriting, receiverships and reorganization. Prerequisite, course 10.

4 units, 2d semester (WHITAKER) MTWTh 10:15

21. Public Finance.—A general course dealing chiefly with the principles underlying public expenditures, revenues, debts, and financial administration.

3 units, 1st semester (GARVER) MWF 8:15

22. Labor Problems.—A study of the more important phases of trade unionism in England and the United States, including a history of the labor movement and a discussion of strikes, lockouts, boycotts, the blacklist, the closed shop policy, and allied questions.

3 units, 1st semester (WANDER) MWF 11:15

23. Charities.—A general survey of the leading economic, social, and individual causes of poverty, and a study of the methods and principles of modern relief.

3 units, 1st semester (WANDER) MWF 9:15

24. Corrections.—The causes of crime; proposed remedies; the treatment of the criminal; the prevention of crime; juvenile delinquency.

3 units, 2d semester (WANDER) MWF 9:15

25. Financial History of the United States.—A study of the finances of the federal government with special reference to the tariff, the growth of expenditures and the public debt.

[Not given in 1914-15.]

26. The Foreign Exchanges.—A study of the system of settling international indebtedness; principles and practice of exchange banking; money markets of the world and their relations. Domestic exchange will also be considered. Prerequisite, course 4.

4 units, 2d semester (WHITAKER) MTWTh 11:15

[Given in 1914-15 and in alternate years thereafter.]

27. Life Insurance.—General principles of insurance; their development and application to modern business; organization, forms, and technique of life insurance; industrial insurance; problems of state control.

2 units, 1st semester (GRASS) TTh 9:15

28. Property Insurance.—Theory of risk and application to modern business; organization, forms, and technique of fire and marine insurance; miscellaneous forms of property insurance.

(GRASS) [Not given in 1914-15.]

29. Railway Rates and Regulation.—A more intensive study of rates in theory and practice; problems of freight classification and routing; distance and commodity tariffs; personal and local discriminations; the growth of state and federal regulation and a survey of important commission and court decisions. To be preceded by course 5.

(MILLER) [Not given in 1914-15.]

30. Water Transportation.—A study of the development and the significance of American and European internal waterways; ocean transportation; the Panama Canal and the relation of water transportation to railways. Prerequisite, course 5.

(MILLER) [Not given in 1914-15.]

31. Advanced Statistics.—A detailed study of some selected sources of statistical material, together with a discussion of methodology.

3 units, 2d semester (COX) MWF 9:15

32. Commercial Policies.—A comparative and critical study of the commercial policies of the principal European nations. Special attention will be given to the growth of reciprocity in recent years and the present direction of commercial expansion.

3 units, 2d semester (DE HAAS) MWF 8:15

33. Business Administration.—An introductory study of the growth and development of the business unit; the methods employed in modern industrial and commercial enterprises; the organization and correlation of departments; psychology of selling and buying; promotion of efficiency and co-operation in the personnel.

3 units, 2d semester (GRASS) MWF 9:15

34. Comparative Federal Government.—An inquiry into the operation of the federal principle in the United States, Germany, and the British federated colonies—Canada, Australia, and South Africa. Prerequisite, course 8.

3 units, 1st semester (WEST) MWF 10:15

35. Parliamentary Government.—A study of the governments of England and France. Prerequisite, course 34.

3 units, 2d semester (WEST) MWF 10:15

36. Municipal Government.—Analytic and comparative study of city government in Europe and America; relation of the city to the central government; organization of city government and special problems of administration. Prerequisite, after 1914-15, courses 34 and 35.

3 units, 1st semester (WEST) MWF 8:15

37. Colonial Government.—The systems of government of colonies and dependencies employed by England, Germany, France, Holland, and the United States. Prerequisite, courses 34, 35.

[Not given in 1914-15.]

ADVANCED AND GRADUATE COURSES

50. American Methods of Taxation.—An intensive study of the federal, state, and local taxes, including the customs and internal revenue duties, the income tax, the general property and corporation taxes, and the inheritance and various forms of business taxes. Should be preceded by courses 20 and 21.

3 units, 2d semester (GARVER)

[Given in alternate years; not given in 1914-15.]

51. Investments.—A study of the issues of national, state, and municipal governments, of railways and industrial corporations, the organization and methods of bond and brokerage houses. Open to students who have taken course 20.

2 units, 2d semester (WILDMAN)

[Given in alternate years; not given in 1914-15.]

52. Banking Problems.—The organization of American credit institutions under the Federal Reserve Act, and a comparison between American and European practice.

2 units, 2d semester (WILDMAN, SCOTT) TTh 9:15

[Given in 1914-15 and alternate years.]

53. Population.—The purpose of the course is threefold: (1) A historical survey of the phenomena of population in the leading countries, (2) an examination of theories of population, and (3) an attempt to determine the position of population as an economic factor.

(ICHIHASHI)

[Not given in 1914-15.]

54. Immigration and the Race Problem.—A study of immigration as a phenomenon of population, and the social and economic significance of the ethnic composition as affected by it, with special reference to the United States.

3 units, 2d semester (ICHIHASHI) MWF 11:15

55. Advanced Accounting.—Study of more specialized systems of accounts; cost accounting; auditing; accounting problems. Prerequisites, Economics 2 and 33.

2 units, 2d semester (GRASS) TTh 9:15

[Given in 1914-15 and alternate years.]

56. Municipal Accounting.—Forms and practice of municipal accounts; preparation of the budget and reports; public utilities accounting. Prerequisite, Economics 2.

(GRASS) [Not given in 1914-15.]

57. Secretarial Training.—Offering in the first semester the fundamental training of a stenographer, in the second, practical work in connection with the common range of secretarial problems, so far as possible carried out under actual office conditions. Open only to junior and senior students who expect to enter upon a business career. One hour of instruction and two hours practice, three times weekly. [Also listed under Education.]

3 units, both semesters (CLARK) MWF 1:30

58. Foreign Trade and Consular Service.—A study of the methods used by different nations in developing foreign markets; the methods of financing foreign shipments; the export and commission houses; international chambers of commerce; history of the consular service, and the duties of consuls.

2 units, 1st semester (DE HAAS) TTh 8:15

59. Combinations and Trusts.—The forms and methods of industrial pools and combinations or "trusts," and the problem of public control. The course deals largely with the Federal Anti-trust Legislation and its construction by the courts.

4 units, 1st semester (WHITAKER) MTWTh 11:15

[Given in 1914-15 and in alternate years thereafter.]

60. Valuation.—The valuation of the properties of public service companies for the purposes of the regulation of rates, with an introductory study of relevant parts of the theory of value and of interest. Prerequisite, course 10.

4 units, 1st semester (WHITAKER)

[Given in 1915-16 and alternate years.]

61. Value and Distribution.—The theory of value and of the "distribution of wealth."

3 units, both semesters (GARVER)

[Given in 1913-14 and in alternate years thereafter.]

62. Socialism.—A discussion of the history and fundamental principles of Socialism and allied movements. For seniors and graduates.

3 units, 2d semester (WANDER) MWF 11:15

63. History of Political Economy.—A brief survey of economic writers and literature of Europe down to 1850. The development of

economic thought in its environment will be studied. A reading knowledge of French, German, or Italian is desirable.

2 units, 1st semester (GRASS) TTh 11:15

64. History of Economic Thought in the United States.—A brief survey of economic writers and literature of America, and a comparison with contemporary writers in Europe.

2 units, 2d semester (GRASS) TTh 11:15

65. Political Parties.—Development of nominating machinery and political issues in the United States, analysis of party organization, consideration of party activities and reform movements, and inquiry into the true functions of parties.

(WEST) [Not given in 1914-15.]

66. American Politics.—An examination of the American system with reference to the extent and effectiveness of popular control, special attention being given to the problems connected with elections and legislation.

3 units, 2d semester (WEST) MWF 8:15

67. Seminar in Labor.—A research course devoted solely to a study of the labor movement on the Pacific Coast. Open only to seniors with 30 units in the department.

2 units, both semesters (WANDER) M 2:30-4:30

68. Seminar in Municipal Problems.—Topic for 1914-15: Regulation of Public Utilities. Open only to graduate students and to seniors with 30 units in the department, including courses 36, 5, and 20. Recommended: Law 10 and 22.

2 units, 2d semester (WEST) By arrangement

69. Seminar in Railroad Finance and Administration.—This seminar is designed for advanced students expecting to enter railway work as a vocation.

(MILLER) [Not given in 1914-15.]

70. Graduate Seminar.—Open only to candidates for higher degrees and members of the department.

2 units, both semesters (WILDMAN) T 7:30-9:30

LAW

Frederic Campbell Woodward, Arthur Martin Cathcart, †Wesley Newcomb Hohfeld, Charles Andrews Huston, Joseph Walter Bingham, Professors.

John Begg Cheadle, Acting Professor.

Marion Rice Kirkwood, Hector Galloway Spaulding, Assistant Professors.

Samuel Watson Charles, Lecturer.

The Law School

The Law School was established, as a department of the University, in 1893. Its purpose is to provide a thorough legal education for students who are fitted by their maturity and their previous academic training to pursue professional study under university methods of instruction. The curriculum covers three academic years and constitutes an adequate preparation for the practice of law in any English speaking jurisdiction. Elective courses in Code Pleading and in California Practice are offered, and graduates of this school are admitted to the California Bar without examination. A comprehensive group of courses in Public Law, of value not only to the law student but to the student who contemplates entering the diplomatic, consular, or other government service, is a feature of the curriculum.

Only college graduates and students who have completed two years of work in the pre-legal curriculum of this University, or its equivalent, are admitted as regular students. Under certain conditions persons over twenty-three years of age who have had experience in business, or who evince uncommon ability, may be admitted as unclassified students, not candidates for a degree.

The Library

The Law Library contains over 20,000 volumes, including complete sets of the English, Irish, Scotch, and Canadian reports, the reports of all the Federal courts, a practically complete set of the reports of the American States and of the Canadian Provinces, the National Reporter system, the standard collections of cases (including the American Decisions, American Reports, American State Reports, Lawyers' Reports Annotated, and American and English Railway Cases), a valuable collection of statutes, text-books, encyclopedias, digests, and other

†Absent on leave, 1914-15.

books of reference, and sets of the leading American, British, and Continental legal periodicals.

The class of 1911, upon graduation, adopted a plan for the purchase, from time to time, of works on Legal History. This collection is known as the "Class of 1911 Memorial Collection on Legal History."

Through the generosity of Justice McFarland, and his successor, Justice Melvin, the library has received, since 1907, a complete set of the records of the California Supreme Court and the District Courts of Appeal.

Admission to the Law School

Admission to the professional curriculum in law is granted to students duly enrolled in the University, as follows:

I. To students who have received the degree of Bachelor of Arts, or an equivalent degree, from this University or some other institution of recognized collegiate rank.

II. To students who have received credit for two years of work in the pre-legal curriculum offered by this University, or the substantial equivalent thereof in some other institution of recognized collegiate rank.

III. In the discretion of the Faculty of Law, to students over twenty-three years of age who cannot meet the foregoing requirements, but who have had experience in business or who evince uncommon ability. Such students are termed "unclassified," and are given a certificate in lieu of the degree conferred upon regular students.

Admission to the Bar

It is provided by Section 280*b* of the California Code of Civil Procedure, that any person producing evidence of having satisfactorily completed the three years' course of law study prescribed by this Law School, shall be entitled to a license to practice law in all the courts of the State, subject to the right of the chief justice of the Supreme Court to order an examination, as in ordinary cases of applicants without such evidence. The certificate required by the statute will be issued, upon request, to any regular or special student who shall have received an aggregate of 75 units of credit in the Law School, including credit in Pleading and California Practice and excluding credit in the course in Introduction to the Study of Law, and who, in addition thereto, shall have received credit in the course in English Composition (English 2).

Instruction in Practice

A special effort is made to impart to the student a thorough knowledge of the rules of procedure and practice, and to enable him to acquire a creditable degree of skill and facility in the application of such rules to conditions of actual litigation. To these ends, courses are offered in Common Law and Code Pleading, and in California Practice. In the last-mentioned course particularly, the student is afforded practical experience in the commencement of actions, the preparation of pleadings, the trial of issues of fact, and the argument of questions of law.

Moot Court

A Moot Court, for the argument of questions of law, is conducted by the Faculty. Sessions are held once a week throughout the year, and the work is open to second- and third-year law students.

Regulations

To receive credit in any course in the Law School, a student must obtain a minimum grade of fifty per cent in classroom work and also in the written examination held at the end of the course. His average for the two must reach sixty per cent. In estimating this average the final examination will count two-thirds and the classroom work one-third. The right to take the final examination is conditioned on regular attendance and the maintenance of the required grade for class work.

A student whose average standing is between fifty and sixty will be given a *condition* and one whose grade is below fifty will be given a *failure*. A *condition* requires a re-examination and a *failure* a repetition of the entire course.

No student may register for more than fifteen hours of law per week. A student may register as visitor in any course in which he is entitled to register as a regular student, provided that such registration shall not give him more than fifteen hours of law.

Fees and Expenses

For professional law courses tuition fees are charged as follows: to students registering for thirteen or more units in law in any semester, $50 per semester; to students registering for less than thirteen units in law in any semester, $4 per unit per semester; but in the case of undergraduates who are taking law courses, the incidental fee, charged to all undergraduates, or such portion thereof as may be required, is applied in payment of the charge for tuition.

A small syllabus fee is charged in all law courses. It is generally 50 cents, but in a few courses, in which a considerable quantity of material is mimeographed for the use of the students, it is higher. In the course in California Practice, where mimeographed material is used in place of a text- or case-book, the fee is $5. A diploma fee of $5 is payable before graduation.

The cost of text-books in the law courses will average $25 per year for the three years of the professional curriculum.

Order of the Coif

A chapter of the Order of the Coif, a law school honor society, was established in the law school in 1912. In the second semester of each year, the four third-year law students who, in the judgment of the faculty, have made the highest records for the entire three years, are elected to membership.

Pre-Legal Curriculum

For undergraduate students who enter with the intention of preparing for the study of law, a pre-legal curriculum is offered by the University under the direction of the Faculty of the Law School. This curriculum ordinarily occupies four years and requires that the student obtain 120 units of university credit. The equivalent of three years is given to general culture studies (for instruction in which no tuition is charged) and of one year to the professional study of law.

In electing courses in general culture subjects it is expected that 40 units will be applied as follows: To English Composition, 4; to a language or languages other than English, 12; to English and American History, or either, 9; to Economics, 6; to Mathematics and Logic, or either, 6 (six units of Physics or Chemistry, including laboratory work, may be substituted); to Introduction to the Study of Law, 3.

Students who satisfactorily complete the full pre-legal curriculum are granted the degree of Bachelor of Arts by the University, and by reason of having had one year of law study as undergraduates may satisfy the requirements for the degree of Juris Doctor by two years of graduate law study.

Students who satisfactorily complete the first two years of the pre-legal curriculum, including the 40 units specified above, may enter the law school as candidates for the degree of Bachelor of Laws.

Law School Curriculum

The work of the first year in the Law School is prescribed, except that with the permission of the faculty in special cases the course in

Criminal Law may be postponed. The work of the second and third years is elective, but the courses in Administrative Law, Private Corporations, Municipal Corporations, Evidence, and California Practice may not be taken, ordinarily, before the third year.

The courses offered in the Law School are as follows:

Preliminary Course

[Open to students of all departments who have 25 units of credit, and required of pre-legal students.]

1. Introduction to the Study of Law.—Nature, origin, and evolution of law, sources of law, sanctions of law; historical survey of English and American courts and procedure; judicial decisions, analysis, abstracting; development of some of the more elementary and fundamental legal principles by combining and comparing decisions; legal rights and duties; use of law books and the law library.

3 units, 2d semester (Kirkwood) MWF 11:15

First-Year Courses

2. Contracts.—The formation of contracts: offer and acceptance; consideration; contracts under seal. Parties affected by contracts: contracts for the benefit of third persons; assignments; joint and several contracts. The Statute of Frauds. The performance of contracts: express and implied conditions; impossibility of performance. Illegal contracts. Discharge of contracts. Williston, Cases on Contracts, and selected California cases.

3 units, both semesters (Woodward) MWF 8:15

3. Torts.—Trespass to person, to real property, and to personal property; excuses for trespass; conversion; legal cause; negligence; contributory and imputed negligence; plaintiff's illegal conduct as a defense; duties of land-owners; hazardous occupations; liability for animals; deceit, defamation, slander, libel, privilege, malice; malicious prosecution, criminal and civil; interference with social and business relations, inducing breaches of duty, fair and unfair competition, strikes, boycotts, business combinations. Cases on Torts: Ames, Vol. I (3d ed.); Smith, Vol. II (2d ed.).

2 units, 1st semester; 3 units, 2d semester (Cathcart)
1st sem., TTh 9:15; 2d sem., MWF 9:15

4. Criminal Law.—Nature and sources of criminal law; crime as an act; attempts; criminal intent; circumstances affecting illegality of act; specific offenses; crimes against the person, larceny and allied

offenses, crimes against the dwelling-house, conspiracy. Beale, Cases on Criminal Law (2d ed.).

3 units, 1st semester (CHEADLE) MWF 9:15

5. Introduction to Property.—Distinction between real and personal property; acquisition of rights in personal property; gifts; bailment; lien; pledge. Real property: tenures; estates, seisin and conveyance; incidents of ownership in real property; fixtures; easements; covenants as to use; public rights; franchises; rents. Gray, Cases on Property, Vol. II (2d ed.), and selected cases.

5 units, 1st semester (KIRKWOOD) MTWThF 10:15

6. Agency.—Nature of relation; appointment; liabilities of principal for agent's torts, contracts, crimes; liabilities of agent; parties to writings; undisclosed principal doctrines; delegation of agency, termination; ratification. Wambaugh, Cases on Agency.

4 units, 2d semester (HUSTON) TWThF 10:15

7. Equity I: Contracts and Torts.—Historical development of equity; relation between equitable rights and powers and legal rights and powers; jurisdiction, procedure, and remedies of courts of equity; specific performance of contracts, with emphasis on the special trust relations between vendors and purchasers of realty; specific prevention and specific reparation of torts, including waste, trespass, nuisance, infringement of patents and copyrights, interference with business relations, violation of rights of privacy. Ames, Cases in Equity Jurisdiction, Vol. I.

4 units, 2d semester (SPAULDING) MWThF 11:15

SECOND- AND THIRD-YEAR COURSES

8. Constitutional Law.—Nature and sources of American constitutional law; adoption and amendment of constitutions; separation of powers; power of judiciary to declare acts of the legislative and executive branches of government unconstitutional; citizenship; privileges and immunities of citizenship; due process of law; police power; eminent domain; taxation; ex post facto and retroactive laws; laws impairing the obligation of contracts; regulation of commerce; money; war; government of territories. Open to second- and third-year law students and to well-prepared fourth-year students in history, economics, and political science. Hall, Cases on Constitutional Law.

3 units, 1st semester; 2 units, 2d semester (CATHCART)
1st sem., MWTh 11:15; 2d sem., TTh 9:15

9. Administrative Law and Public Officers.—Administrative regulations; jurisdiction, discretion, adjudication; enforcement of orders;

habeas corpus; mandamus; certiorari; equitable jurisdiction in public law. Freund, Cases on Administrative Law.

3 units, 1st semester (HUSTON) TTh 10:15; M 2:30

10. Municipal Corporations.—Nature; creation, alteration, and dissolution; internal organization; powers; liabilities on contract and for torts; remedies. Beale, Cases on Municipal Corporations, and selected California cases.

3 units, 2d semester (HUSTON) MWF 8:15

11. Conflict of Laws.—The principles and rules of "private international law" determining the extent to which the domestic system of law adopts and applies provisions of foreign systems in cases involving extraterritorial factors; more especially (1) nature and effect of domicile and nationality; (2) jurisdiction of courts in proceedings *in personam,* proceedings *in rem,* and proceedings for *divorce;* (3) respective applicability and effect of domestic laws and foreign laws in relation to marriage and other domestic relations; contractual, quasi-contractual, delictual, and judgment obligations; the creation, transfer, taxation, devise, and inheritance of all forms of property interests. Beale, Cases on Conflict of Laws, Vols. I, II, and III.

4 units, 1st semester (HOHFELD) [To be given in 1915-16.]

12. Admiralty.—Admiralty jurisdiction, basis; maritime contracts, torts, and crimes; maritime liens, ex contractu, ex delicto, priorities, discharge; bottomry and respondentia obligations; salvage; general average. Ames, Cases on Admiralty.

2 units (KIRKWOOD) [Not given in 1914-15.]

13. Roman Law.—A comparative study of some leading conceptions of the Roman Law, and its modern developments in the Civil Law of Continental Europe and America, with the related conceptions of the Anglo-American Common Law. Required reading to be announced.

3 units (HUSTON) [Not given in 1914-15.]

14. Title to Land I: Possession and Landlord and Tenant.—Nature and importance of legal possession; remedies to recover legal possession wrongfully withheld; effect of statutes of limitations; tacking of periods of successive adverse possessions; actual occupation as element of title to legal possession; "constructive" adverse possession under color of title; intent as element of title to legal possession; possession through occupation of a servant or agent; possession through occupation of a tenant; relationship of landlord and tenant compared with rights and liberties of persons in various other relations; possession through a co-tenant's occupation; exceptions and

interruptions to running of statutes of limitations. Creation of relationship of landlord and tenant; duration of tenant's interest; eviction and its effects; remedies of landlord for non-performance of tenant's obligations; remedies of tenant against landlord; covenants running with the land between landlord and tenant; rights, liberties, and duties of landlord and tenant with respect to third persons. Gray, Cases on Property (2d ed.), Vol. III; and selected cases and statutes.

3 units, 1st semester (BINGHAM) MWF 8:15

15. Title to Land II: Conveyances.—Accretion; prescription; creation of interests in land by agreement or conveyance; methods of transfer of interests in land at common law and under statutes; execution of deeds; interpretation of instruments of conveyance; covenants for title; conditions; fraudulent conveyances; recording. Prerequisite, course 5. Gray, Cases on Property (2d ed.), Vols. III and VI; and selected cases and statutes.

3 units, 2d semester (BINGHAM) MWF 11:15

16. Wills and Administration.—Acquisition of property on the death of former owner, escheat, descent, occupancy, gifts *mortis causa*, the making, revocation, and republication of wills, payment of legacies and distribution, ademption and lapse of legacies. Prerequisite, course 5. Gray, Cases on Property, Vol. IV (2d ed.), and selected cases.

3 units, 2d semester (BINGHAM) M 9:15; TTh 10:15

17. Future Interests.—Vested and executory interests; construction of language creating future interests; powers; rule against perpetuities; provisions for forfeiture and restraints on alienation; the California law of future interests. Prerequisite: courses 7 and 14. Gray, Cases on Property, Vol. V and part of Vol. VI (2d ed.), and selected cases and statutes.

4 units, 1st semester (BINGHAM) [To be given in 1915-16.]

18. Water Rights and Irrigation Law.—A course in the intensive study of the law of water supply rights, with especial reference to water rights in the Western States. Selected cases and legislative enactments.

3 units, 1st semester (BINGHAM) MWF 10:15

19. Mining Law.—A course on mining titles under the Federal mining acts, with especial reference to mining rights in the Western States and Alaska. Costigan, Cases on Mining Law; and legislative enactments.

2 units, 2d semester (BINGHAM) WF 9:15

20. Persons and Domestic Relations. —Parent and child; custody,

support, services, and earnings of child; relations as to torts; adoption. Infants: period of infancy; infants' contracts and conveyances, torts, and crimes. Husband and wife; rights of husband as to wife's property; rights of each as to earnings, services, and society of the other; husband's interest in damages for tort to wife; husband's liability for torts or contracts of wife; husband's duty to support wife and wife's authority to bind husband by her contracts; married women's contracts, conveyances, and devises; estoppel of married women; liability of married women for torts and responsibility for crimes; contracts, conveyances, and suits between husband and wife; husband's right to custody of wife. Marriage: promise to marry and breach; marriage as a contract or relation; annulment; divorce; separation. Kales, Cases on Persons and Domestic Relations, and Vernier, Cases on Marriage and Divorce.

3 units, 2d semester (CHEADLE) MWF 8:15

21. Quasi-Contracts.—Origin and nature of quasi-contracts: Benefits conferred in misreliance on right or duty; general principles; misreliance resulting from mistake of law; misreliance on invalid contract, on contract unenforceable because of Statute of Frauds, on illegal contract, on contract impossible of performance, on contract unenforceable because of breach, on supposed requirement of valid contract, on non-contract obligation, on ownership of property: Benefits conferred through dutiful intervention in another's affairs: Benefits conferred under constraint; constraint of duress, of legal proceedings, of tax or assessment: Action for restitution as alternative remedy for breach of contract and for tort. Woodruff, Cases on Quasi-Contracts.

3 units, 2d semester (WOODWARD) [Not given in 1914-15.]

22. Bailments and Carriers.—Bailments in general, including bailments for hire, for services to be performed, and for hired use. Special classes of bailments involving ordinary liability: pledges; warehousemen. Special classes of bailments involving exceptional liability: innkeepers; common carriers of goods; common carriers of passengers. McClain, Cases on Bailments and Carriers.

3 units, 2d semester (———) [To be given in 1915-16.]

23. Sales.—Subject matter of the contract; transfer of property and title; destruction of the goods and risk of loss; obligations of seller and buyer; rights of unpaid seller against the goods; remedies of the seller on the contract; remedies of the buyer on the contract; Statute of Frauds. Woodward, Cases on Sales.

4 units, 2d semester (WOODWARD) MWF 10:15; Th 8:15

25. Bills and Notes.—Negotiability; form and inception, form of bill and of note, acceptance, delivery, consideration; negotiation, transfer, holder in due course; liability of parties, maker and acceptor, drawer and indorser, transferror; discharge; effect of the Negotiable Instruments Law and California statutes. Smith and Moore, Cases on Bills and Notes.

4 units, 2d semester (KIRKWOOD) MWF 8:15; T 2:30

26. Partnership.—Nature of a partnership, its purposes, and members; creation of partnerships; nature of partner's interest; firm name and good will; mutual rights and duties of partners; actions between partners, at law and in equity; powers of partners; liability for acts of partners in contract and tort; general liability of partners; dissolution and notice; consequences of dissolution; dissolution agreements respecting debts; distribution of assets to creditors, and between partners; limited partnerships. Gilmore, Cases on Partnership.

3 units, 1st semester (HUSTON) [To be given in 1915-16.]

27. Private Corporations.—The nature of a corporation; the formation and organization of corporations; irregular incorporation; corporate powers; ultra vires; promoters; directors; shareholders; creditors; stock issue and payment, transfer. Open to third-year law students only. Canfield and Wormser, Cases on Corporations, and selected California cases.

4 units, 1st semester (HUSTON) MWF 9:15; Th 11:15

28. Insurance.—Marine, fire, and life insurance. Insurable interest in various kinds of policies; concealments; misrepresentations; warranties and other matters affecting the validity of the contract; amount of recovery; subrogation; waiver, estoppel, election; powers of agents; assignees and beneficiaries. Wambaugh, Cases on Insurance.

3 units, 2d semester (———) [Not given in 1914-15.]

29. Suretyship.—Personal suretyship compared with real suretyship (mortgages, pledges, liens, etc.); suretyship obligations compared with insurance and indemnity obligations; guaranty and other forms of suretyship in relation to the Statute of Frauds; suretyship in transactions involving negotiable instruments; fidelity contracts and judicial bonds; surety's defenses due to original defects in his obligation or to its subsequent discharge; surety's right to subrogation, indemnity, contribution, or exoneration; creditor's right to surety's securities. Ames, Cases on Suretyship.

3 units, 2d semester (SPAULDING) T 8:15; WF 1:30

30. Mortgages.—All forms of mortgage security, both real and chattel; essential elements of legal and equitable mortgages; legal and equitable rights, powers and remedies of mortgagor and mortgagee with respect to title, possession, rents and profits, waste, collateral agreements, foreclosure, redemption; priorities; marshaling; extension of mortgages; assignment of mortgages; discharge of mortgages. Kirchwey, Cases on Mortgage.

2 units, 2d semester (WOODWARD) [Not given in 1914-15.]

31. Equity II: Trusts.—The Anglo-American system of uses and trusts considered in comparison with closely related legal and equitable relations; the creation, the administration, the transfer and the extinguishment of all forms of trusts, express, resulting, and constructive; priorities between competing equities; the construction of trust deeds and wills; the special doctrines of charitable trusts, including construction and *cy pres*. Ames, Cases on Trusts (2d ed.).

4 units, 1st semester (SPAULDING) MW 1:30; TTh 9:15

32. Equity III: Interpleader, Bills of Peace, etc.—Special equitable remedies, including: interpleader; bills of peace and *quia timet;* cancellation of contract; clouds on title; perpetuation of testimony; rights of future enjoyment; reformation and rescission of contract for mistake. Ames, Cases in Equity Jurisdiction, Vol. II.

2 units, 1st semester (KIRKWOOD) TTh 8:15

33. Damages.—Respective functions of court and jury in estimating damages; exemplary, liquidated, nominal, direct, and consequential damages; avoidable consequences; counsel fees; certainty, compensation, damages for non-pecuniary injuries; value; interest; and damages in certain actions of tort and contract. Beale, Cases on Damages (2d ed.).

2 units, 1st semester (———) [Not given in 1914-15.]

34. Bankruptcy.—Jurisdiction of the United States and the several States; who may be a bankrupt; who may be petitioning creditors; acts of bankruptcy; what property passes to the trustee; provable claims; duties and powers of the bankrupt and his trustee; protection, exemptions and discharge. Williston, Cases on Bankruptcy.

3 units, 1st semester (SPAULDING) MWF 9:15

35. Pleading.—Common law pleading: scope of the principal actions; necessary allegations; traverses; confession and avoidance; demurrers, general and special; motions. Equity pleading; bills; disclaimers; demurrers; pleas; answers; replications; cross bills. Code pleading: the civil action; the complaint, including constitutive facts, union

of actions, and prayer for relief; the answer, including general and specific denials, new matter, union of defenses and counterclaims; the reply; demurrers; motions. Open to second- and third-year law students. Whittier, Cases on Common Law Pleading; also selected cases.

2 units, both semesters (CATHCART) TTh 11:15

36. Evidence.—Respective functions of judge and jury; "law and fact"; presumptions; burden of proof; judicial notice; classification of evidence; relevancy as primary test of admissibility; principles and rules relating to the following: misleading or unimportant matters, character, admissions, confessions, hearsay, witnesses' opinions and expert testimony, real evidence, evidence relating to execution, contents and interpretation of writings; various rules of substantive law stated in terms of "parol evidence rule"; competency of witnesses; privilege of witnesses; impeachment and confirmation of witnesses; examination of witnesses. Open to students having 31 units of credit in law. Thayer, Cases on Evidence (2d ed.), and Wigmore, Cases on evidence (2d ed.).

3 units, both semesters (CHEADLE)

MWF 11:15, 1st sem.; M 1:30, TTh 9:15, 2d sem.

37. California Practice.—Organization and jurisdiction of courts; court records and files; proceedings prior to judgment, including: service and return of summons and motions relating thereto, appearances, provisional remedies, such as attachment, arrest, etc., *lis pendens,* the trial, exceptions and findings, verdict; the judgment, its entry and satisfaction; proceedings subsequent to judgment, including: stay of execution, costs, execution, motion for new trial, appellate proceedings; probate and administration proceedings; special proceedings, including writs of certiorari, mandamus, and prohibition; introduction to jurisdiction and procedure of Federal courts. Prerequisite, course 35. Open to students having 31 units of credit in law. California Code of Civil Procedure; also selected California cases.

2 units, both semesters (CHARLES) TTh 1:30

38. Moot Court.—Argument of cases on submitted statements of facts; briefs; preparation of opinions.

1 unit, each semester (CHEADLE) W 1:30

39. International Law.—International Law defined and distinguished from Municipal Law. International relations in time of peace: definition, recognition and classification of states; effect of change of sovereignty; jurisdiction on land and on the high seas; nationality. International relations as modified by war: measures short of actual

war; effects of war as between enemies; relations between belligerents and neutrals. Open to all law students and to advanced students in other departments. Scott, Cases on International Law.

3 units, 1st semester (WOODWARD) MWF 10:15

SPECIAL LECTURES

In addition to the regular professional courses, a number of special lectures, most of them of a practical character, are given each year by experienced lawyers of the California Bar.

COURSES IN OTHER DEPARTMENTS

Courses offered by other Departments of the University are open to pre-legal and law students. Of special interest and importance are the course in the Institutes of Justinian, in the Latin Department, the courses in Constitutional History, in the History Department, and various courses in Economics and Political Science.

MATHEMATICS

ROBERT EDGAR ALLARDICE, RUFUS LOT GREEN, HANS FREDERICK BLICHFELDT, Professors.
PHILO FAY HAMMOND, Assistant.

The courses in this department have been arranged to meet the wants of two classes of students—students whose major subject is Mathematics, and students who, while taking their major in some other department, desire to include some mathematics in their course. Students in Engineering are provided for in the Department of Applied Mathematics.

For students whose major subject is Mathematics the following programme of work is recommended: In the first year, courses 3 and 4: in the second year, courses 9, and 10 or 21; in the third year, courses 11, 12, and 15; while the work during the fourth year and for graduate students may be selected from the remaining courses, and from the Department of Applied Mathematics. The advanced courses will, for the most part, be given once in two or once in three years, and it is hoped that the advanced students will thus have the opportunity of studying the more important branches of modern mathematics.

Students whose major subject is Mathematics are recommended to begin the study either of French or of German in their freshman year.

Students who desire to take one or more years of Mathematics as a part of a liberal training are recommended to begin their work in this Department with one or more of the courses 1, 2, 3, 6, and 7.

The TEACHER'S RECOMMENDATION.—For the High School Recommendation in Mathematics the following courses are required: 1, 2, 3, 4, 9, and 10 or 6.

1. Trigonometry.—Elementary course, with applications involving logarithmic calculation.

3 units, either semester (BLICHFELDT) TTh 9:15

2. Solid Geometry.—Elementary course.

2 units, either semester (HAMMOND) TTh 9:15

3. Algebra.—Fundamental laws, degree, symmetry, indeterminate coefficients, remainder theorem, factors, introduction to theory of equations. Presupposes entrance credit in elementary algebra.

5 units, 1st semester (GREEN) MTWThF 8:15

4. Co-ordinate Geometry.—An elementary course in the analytic geometry of the conic sections. Presupposes course 3.

5 units, 2d semester (GREEN) MTWThF 8:15

[Students making Mathematics their major subject should take courses 3 and 4 as the first year's work, and those who have not had Trigonometry should also take course 1.]

6. Plane Geometry.—This course includes a rapid revision of elementary geometry, together with additional theorems and references to modern theories. It is recommended to those who expect to teach mathematics, and presupposes entrance credit in plane geometry.

2 units, both semesters (ALLARDICE) TTh 10:15

7. General Course.—A brief and elementary survey of the principles of Algebra, Trigonometry, Co-ordinate Geometry, and Calculus. Presupposes elementary algebra and plane geometry.

3 units, both semesters (HAMMOND) MWF 10:15

8. Teachers' Course in Algebra.

3 units, 2d semester (GREEN) MWF 9:15

9. Differential and Integral Calculus.—Lectures on the Differential and Integral Calculus, with applications to the theory of plane curves, on the lines of Williamson's treatises.

3 units, both semesters (ALLARDICE) MWF 9:15

10. Advanced Co-ordinate Geometry.—A continuation of course 4.

2 units, both semesters (GREEN) TTh 9:15

11. Advanced Calculus.—A continuation of course 9.
3 units, 1st semester (ALLARDICE) MWF 11:15

12. Theory of Functions.—Elementary course.
3 units, 2d semester (ALLARDICE) MWF 11:15

13. Non-Euclidean Geometry.—Presupposes a course in Calculus.
2 units, 1st semester (BLICHFELDT) TTh 10:15

14. Modern Co-ordinate Geometry.—Introductory course.
3 units, 1st semester (GREEN) MWF 10:15

15. Differential Equations.
3 units, both semesters (BLICHFELDT) MWF 10:15

16. Definite Integrals.
2 units, 1st semester (ALLARDICE)

17. Advanced Theory of Functions.
4 units, both semesters (ALLARDICE) [Not given in 1914-15.]

18. Theory of Equations.
3 units, both semesters (GREEN) [Not given in 1914-15.]

19. Reading Course.—In this course the students will read French and German text-books under the direction of the instructors.
2 units, both semesters (ALLARDICE, BLICHFELDT)
[Not given in 1914-15.]

21. Projective Geometry.
TTh 11:15 2 units, both semesters (ALLARDICE)

22. Classical Problems.
3 units, 2d semester (BLICHFELDT)

23. Mathematics of Investment and Insurance.
3 units, both semesters (GREEN) MWF 10:15

25. Theory of Groups.
3 units, 1st semester (BLICHFELDT)

APPLIED MATHEMATICS

LEANDER MILLER HOSKINS, Professor.
HALCFTT CADWALADER MORENO, SIDNEY DEAN TOWNLEY, WILLIAM ALBERT MANNING, Associate Professors.
ERNEST WILLIAM PONZER, Assistant Professor.

The courses in Applied Mathematics are planned primarily to meet the needs of students in Engineering. The aim is to make these courses

practical in the sense of furnishing thorough drill on fundamental principles and much practice in their application. Emphasis is laid upon accuracy and system in the solution of numerical problems. Students whose training in arithmetical work has been deficient, or who are otherwise inadequately prepared, or who lack aptitude for mathematical study, can not pursue these courses successfully.

Students majoring in any Engineering department should have entrance credit in all preparatory subjects in mathematics, including Algebra (at least one and a half units), Plane and Solid Geometry, and Plane Trigonometry. This preparation is required for admission to any of the following courses.*

Course 1 embraces the regular first-year work, and courses 2 and 3 the regular second-year work for all students in Engineering. Those deficient in the work of the first year are not admitted to second-year courses. This requirement will be strictly enforced, whether the previous work has been taken in this University or elsewhere.

1. **First-year Mathematics.**—This course embraces (*a*) Algebra, (*b*) Trigonometry, (*c*) Co-ordinate Geometry. The work begins with a rapid review of elementary algebra, intended to test the student's familiarity with fundamental principles and operations, those showing deficient preparation not being permitted to continue. This review is followed by more advanced work in algebra, but emphasis is laid on the thorough mastery of the ordinary rules rather than on covering a large amount of ground. In the second part of the course much attention is paid to reviewing and enforcing the fundamental principles of plane trigonometry, and especially to the numerical solution of triangles using both natural and logarithmic functions. In co-ordinate geometry it is aimed to familiarize the student with the method of co-ordinates, so that he can apply it independently to simple problems, rather than to devote much attention to a detailed study of the properties of the conic sections or other curves. The course is open to students having entrance credit in algebra (at least 1½ units), plane and solid geometry, and plane trigonometry.

5 units, both semesters (Moreno, Manning, Ponzer)
MTWThF 8:15, 10:15

2. **Calculus.**—An elementary course on Differential and Integral Calculus, in which emphasis is laid on fundamental principles and sim-

*Courses in Solid Geometry and Trigonometry are given in the Department of Mathematics (courses 1 and 2).

ple applications. Only a limited number can be admitted to the five-hour section.

3 units, both semesters, or 5 units, 1st semester
(Hoskins, Moreno, Manning, Ponzer)
MWF 9:15; MTWThF 9:15 (1st sem.)

3. Theoretical Mechanics.—An elementary course, covering the fundamental principles of Statics, Kinematics, and Kinetics, restricted mainly to coplanar forces and to plane motion of particles and of rigid bodies. An elementary treatment of Graphic Statics is included. The course is designed as preparation for the courses in Applied Mechanics taken by students of Engineering, but is open to all whose preparation includes the equivalent of course 1. Calculus must either precede this course or be taken at the same time.

5 units, both semesters (Hoskins, Manning, Townley)
MTWThF 10:15

4. Advanced Calculus.—This course is designed to meet the needs of students who are preparing to pursue the more mathematical parts of engineering theory.

2 units, 1st semester (Moreno) MW 11:15

8. Engineering Mathematics.—A supplementary course designed to meet the needs of students of Electrical Engineering.

2 units, 1st semester (Moreno) TTh 9:15

9. Graduate Courses.—Advanced courses in Theoretical Mechanics, Hydromechanics, Theory of Heat, Theory of the Potential Function, Theory of Elasticity, or other subjects, may be arranged for students having the requisite mathematical training.

Astronomy and Geodesy

The course in Descriptive Astronomy is designed especially to meet the needs of students who have time for only a general knowledge of the subject. Course 11 is designed especially for students of Engineering and Geology who desire a working knowledge of practical astronomy. The other courses are intended for students of Applied Mathematics or Civil Engineering who wish to prepare themselves for geodetic work.

10. Descriptive Astronomy.—This course consists of a general survey of the various branches of astronomy, including a study of the celestial sphere, the bodies of the solar system, comets, the fixed stars, and other heavenly bodies. The treatment is non-mathematical.

3 units, 1st semester (Townley) MWF 11:15

11. Practical Astronomy.—The theory and practice of the determination of latitude, azimuth, time, and longitude, with sextant and engineer's transit. Intended especially to meet the requirements of students of civil engineering. Course 1, differential calculus, and surveying are prerequisites.

3 units, 2d semester (TOWNLEY) MWF 11:15

12. Advanced Practical Astronomy.—A continuation of course 11. Precise methods of determining time, latitude, etc., by means of the universal instrument.

Hours and credits to be adjusted. (TOWNLEY)

13. Adjustment of Observations.—Theory of the method of least squares, with applications. Credit in course 2 or its equivalent is a prerequisite.

2 units, 2d semester (TOWNLEY) TTh 11:15

14. Geodesy.—Study of the form and dimensions of the earth and the practical methods of geodetic work. Courses 11 and 13 are prerequisites.

2 units, 2d semester (TOWNLEY)

PHYSICS

FERNANDO SANFORD, Professor.
FREDERICK JOHN ROGERS, Associate Professor.
ELMER REGINALD DREW, JOSEPH GRANT BROWN, Assistant Professors.
PERLEY ASON ROSS, Instructor.
CORNELIUS BOL, FLORELLA KELSO FINNEY, PHILO FAY HAMMOND, ALMA ANITA HAUB, Graduate Assistants.
FRED S. MULOCK, Mechanical Assistant.

[Courses 1, 2, 3, 4, and 5 constitute a course in General Physics, and are intended to precede the advanced courses.]

1. Dynamics.—Including hydrostatics and pneumatics. Open only to students who have had algebra and plane geometry. Required as a preparation for each of the courses following (except 6 and 7). Two lectures and two laboratory periods per week.

4 units, either semester (Ross) Lec. TTh 9:15;
Lab. (1st sem.) MTWThF, (2d sem.) WThF 1:30-4:30

2. Electricity and Magnetism.—Three laboratory periods per week, which will include two hours of lecture and discussion. Prerequisite: course 1, or an equivalent.

4 units, 1st semester (DREW) WThF 1:30-4:30

3. Heat.—One lecture and two laboratory periods per week. Prerequisite: course 1.

3 units, 2d semester (ROSS) Lec. W 1:30; Lab. MT 1:30-4:30

4. Sound.—Including wave-motion. Three laboratory periods per week. Prerequisites: course 1, and trigonometry.

3 units, 1st semester (BROWN) Lab. MTW 1:30-4:30

5. Elementary Optics.—Three laboratory periods per week. Prerequisites: course 1, and trigonometry.

3 units, 2d semester (BROWN) Lab. WThF 1:30-4:30

6. General Physics.—A course intended primarily for students in Engineering but open to others who have had equivalent preparation. Three experimental lectures and recitations and one laboratory period per week. Prerequisite: entrance Physics, and course 3 in Applied Mathematics, or may be taken concurrently with the latter.

a. Heat, Light, and Sound.

4 units, 1st semester (BROWN)
Lec. MWF 11:15; Lab. W or Th or F 1:30-4:30

b. Electricity and Magnetism.

4 units, 2d semester (ROGERS)
Lec. MWF 11:15; Lab. W or Th or F 1:30-4:30

7. General Physics.—A non-mathematical course intended primarily for students in Biological Science and students preparing for the study of Medicine, but open to others. Two lectures and two laboratory periods per week throughout the year.

4 units, both semesters (DREW) Lec. MW 10:15; Lab. (I) MT 1:30-4:30 (primarily for pre-medical students), (II) TTh 9:15-12:15

8. Mechanical Measurements.—A course in exact measurements of mass, length, time, and gravity, using balance, dividing engine, cathetometer, chronograph, etc. Two laboratory periods per week. Prerequisite, course 1.

2 units, 2d semester (BROWN) Lab. MT 1:30-4:30

9. Electrical Measurements.—Open to students who have taken course 2 or course 6*b*.

2 or 4 units, 1st semester (ROGERS)
Lec. Th 8:15; Lab. (I) MWF 10:15-12:15, (II) MTW 1:30-4:30

9a. Photometry and Illumination.—Open to students who have completed course 9.

1 unit, 2d semester (ROGERS) By arrangement

10. Advanced Optics.—Two laboratory periods per week. Prerequisite, course 5.

2 units, 2d semester (SANFORD) By arrangement

11. Advanced Physics.—Lectures. Prerequisites, courses 1, 2, 3, 4, and 5, or their equivalent.

5 units, both semesters (SANFORD) MTWThF 11:15

12. Analytic Mechanics.—Lectures. Prerequisites, course 1 and the Differential and Integral Calculus.

4 units, 2d semester (DREW) By arrangement

13. Teachers' Course in Elementary Physics. — Prerequisites: courses 1, 2, 3, 4, and 5, or their equivalent.

1 unit, both semesters. (SANFORD) W 10:15

14. Advanced Heat.—Lectures on selected topics, including the elements of Kinetic Theory and Thermodynamics. Prerequisites: courses 1 and 3, and calculus.

3 units, 2d semester (DREW) By arrangement

15. Vibratory Motion and Wave Motion.—Recitations and lectures illustrated by occasional lecture experiments and a few carefully executed laboratory experiments. A knowledge of differential and integral calculus is required.

2 units, both semesters (ROGERS) TTh 10:15

16. The Literature of Physics.—A reading course open to students who have the preparation required for Physics 11. A general review of the literature of Physics, especially journal literature.

2 units, either semester (SANFORD) By arrangement

18. Advanced Electricity.—Recitations and lectures illustrated by occasional lecture experiments and a few carefully executed laboratory experiments. Prerequisites: courses 2 or 6*b*, 9, and calculus.

3 units, both semesters (ROGERS)

19. Investigation of Original Problems in the Laboratory.—Hours to be determined in each case.

(SANFORD) By arrangement

For graduation in the department the minimum requirement is 40 units of Physics and Chemistry, of which at least 30 units must be Physics. All elementary courses except 6 and 7 are suitable for Physics majors.

The Teacher's Recommendation.—The minimum requirement is courses 1, 2, 3, 4, 5, or an equivalent, and course 13.

Laboratory Fees.—Courses 1, 2, 3, 4, 5, 7, 8, and 10, $4 each per semester; course 6*a* and 6*b*, $3 each, per semester; course 9, $5 per semester; course 19, $2 per unit per semester.

CHEMISTRY

John Maxson Stillman, Lionel Remond Lenox, Edward Curtis Franklin, Stewart Woodford Young, Robert Eckles Swain, Professors.

John Pearce Mitchell, William Henry Sloan, Assistant Professors.

George Shambaugh Bohart, Alice Ruth Berger, Instructors.

William Edmund Burke, Acting Instructor.

Howard McKee Elsey, Win Rawdon Goddard, Elton Marion Hogg, Paul Mark Levy, Guy Carleton Swan, Graduate Assistants.

George J. Ziser, Allen Edwin Stearn, Undergraduate Assistants.

Walter Johnson Bruce, Curator.

Benjamin Thomas Scott, Storekeeper.

I. Lecture Courses.

1. General Inorganic Chemistry.—Comprising a systematic treatment of elementary principles and of the properties of the more important elements and their compounds. Open to all students. Those not having entrance credit in Chemistry will register in a three-hour section for the first semester and in laboratory course *a*1.

2 or 3 units, 1st semester; 2 units, 2d semester (Mitchell) (I) MWF 8:15; (II) TTh 11:15

2. Principles of General and Inorganic Chemistry.—Discussion of the elements of chemical theories and of important generalizations in the field of inorganic chemistry. Open to all students who have completed courses 1 and *a*11.

3 units, both semesters (Stillman) MWF 11:15

3. Organic Chemistry.—Lectures and reviews on the chemistry of carbon compounds. Open to students who have completed courses 1 and *a*.

3 units, both semesters (Franklin) MWF 10:15

[3*a*. A condensed course in organic chemistry is offered for students in medicine. See Department of Medicine, Division of Chemistry, course 1.]

4. Industrial Chemistry.—Lectures on fuels, water, acid and alkali manufacturing, explosives, sugar-making and refining, petroleum. Open to students who have completed courses 2 and 3; or may be taken concurrently with course 3.

2 units, both semesters (STILLMAN) MF 9:15

5. History of Chemistry.—Open to students who have completed courses 2 and 3.

2 units, 1st semester, in alternate years (STILLMAN) TTh 9:15
[Given in 1914-1915.]

6. Qualitative Analysis.—In connection with laboratory course *b*.

1 unit, either semester (LENOX) T 1:30

7. Advanced Organic Chemistry.—Advanced topics in organic chemistry, including stereochemistry. Open to students who have completed courses 2 and 3.

2 units, 1st semester, in alternate years (FRANKLIN)
[Not given in 1914-15.]

8. General Physical Chemistry.—Lectures covering as far as possible the whole field of physical chemistry. Open to students who have completed courses 2 and *d* in Chemistry, courses 3 and 9 in Mathematics, and course 1 in Physics (course 2 being also recommended.)

3 units, both semesters (YOUNG) MWF 8:15

9. Physical-Chemical Measurements.—An informal course of lectures given as needed in connection with course *f*.

No credit (YOUNG) By arrangement

10. Applied Physical Chemistry.—For students in Analytical Chemistry and Metallurgy.

2 units, 2d semester (YOUNG) MW 9:15

11. Physiological Chemistry.—Lectures on the chemical composition and action of the tissues and secretions of the animal body, the digestion of foods, and the elimination of waste products. Open to students who have completed course 3.

3 units, 1st semester (SWAIN) MWF 11:15

12. Seminary in Chemistry.—Discussion of assigned topics in theoretical and general chemistry. Open to graduate students, and to advanced undergraduates in Chemistry, with the approval of the Faculty in Chemistry.

1 unit, both semesters W 4

II. Laboratory Courses

a. General Inorganic Chemistry.—In connection with course 1.

*a*1. Illustrating fundamental laws and principles of elementary chemistry, for students who have not received entrance credit in Chemistry.

2 units, 1st semester (Mitchell, Bohart) MT or ThF 1:30-4:30

*a*II. Inorganic preparations and general chemistry. For students who either have completed *a*1 or have received entrance credit in Chemistry.

2 units, either semester (Mitchell, Bohart) MT or ThF 1:30-4:30

b. Qualitative Analysis.—Open to students who have completed courses 1 and *a*II.

3 afternoons, either semester (Lenox, Berger) By arrangement

c. Preparation of Typical Carbon Compounds.—Open in connection with course 3 to students who have completed course *b*.

3 afternoons, either semester (Franklin) By arrangement

d. Quantitative Analysis.—Training in manipulation in gravimetric and volumetric methods. Work begins either semester. Students in other departments than Chemistry may register for three afternoons if they cannot arrange for four, as is recommended. Open to students who have completed courses 6 and *b*.

4 afternoons, either semester (Sloan) By arrangement

e. Mineral Analysis.—Systematic analysis of representative minerals. Open to students who have completed course *d*, and required of students whose major subject is Chemistry, unless *f* or *g* be elected instead.

4 afternoons, either semester (Lenox, Sloan) By arrangement

f. Physical-Chemical Measurements.—Exercises in the practice of physical-chemical laboratory methods. Open to students who have completed or are taking course 8, and who have completed course *d*.

3 or 5 units, either semester (Young) By arrangement

g. Physiological Chemistry.—A laboratory course including a preliminary study of the proteins, carbohydrates, and fats, and the action of the various digestive fluids upon them, followed by a chemical examination of the bile, blood, milk, the chief tissues of the animal body, and the excretions. In connection with course 11.

3 afternoons, 1st semester (Swain) By arrangement

h. Assaying.—Open to students who have completed course *d*.

3 afternoons, either semester (Lenox)
Lab. by arrangement; Lec. Th 1:30

i. Physical-Chemical Laboratory.—A course recommended in connection with Chemistry 10.

(YOUNG) By arrangement

k. Analytical Chemistry.—A condensed course intended exclusively for students preparing for medicine. Not open to Chemistry majors, and not accepted in place of the regular courses in qualitative and quantitative analysis as prerequisites for advanced laboratory courses, with the exception of physiological chemistry for medical students.

[Students preparing for Medicine who have, however, already completed the regular course in Qualitative Analysis (6 and *b*), may register for *kb* for two hours credit.]

In 1914-15 the course *kb* must be begun by March 1st. The class will be expected to finish *ka* by that date.

ka. Qualitative Analysis.—Brief course. Credit deferred until *kb* is also completed. 2 units (LENOX)

kb. Quantitative Analysis.—Brief course. 2 units (SLOAN)

Course *k* (*a* and *b*) must be registered at the same time—for four units total credit.

x. Advanced and Special Courses in laboratory work and research work are open to students who have completed the necessary prerequisites, by arrangement with professors of the Department, and with reference to the particular aims and ambitions of the students. Such advanced or special subjects are, for example: special methods in mineral analysis, iron and steel analysis; special methods in assaying; water analysis; food analysis; urine analysis; elementary organic analysis; special organic preparations; analysis of sugar, toxicology, etc.

Qualified students may also pursue investigations of problems in inorganic, organic, physical, analytical, or physiological chemistry under the direction of any professor with whom arrangement is made.

For all such advanced, special, or research work, students will register and enroll under *x*, giving name of professor under whom the work is to be carried on, and for such number of units of credit as may be agreed upon.

Candidates for the degree of Bachelor of Arts in Chemistry may select any one of the four following curricula (A, B, C, D), the requirements of the Department being as follows:

A. General Chemistry

First Year:—Chemistry 1, *a;* Physics 1; Mathematics 3; German 1.
Second Year:—Chemistry 2, 6, *b;* Mathematics 9; German 2*a*.
Third and Fourth Years:—Chemistry *d*, 3, *c*, 8, *f*.

Recommended for all who are studying the science of chemistry for its own sake or for the profession of teaching.

B. Analytical Chemistry

First Year:—Chemistry 1, *a;* Physics 1; German 1.
Second Year:—Chemistry 2, 6, *b;* Geology 1, 2; German 2*a*.
Third and Fourth Years:—Chemistry *d*, *e*, *c*, *h*, 3, 10; Geology 5.

Particularly adapted to students who are looking forward to the career of analytical chemist and assayer.

C. Medical or Sanitary Chemistry

First Year:—Chemistry 1, *a;* Physiology 1; German 1.
Second Year:—Chemistry 2, 6, *b;* Physics 7; German 2*a*.
Third and Fourth Years:—Chemistry 3, *c*, *d*, 11, *g*.

Particularly adapted to students who are looking forward to medical education or to sanitary chemistry.

D. Chemical Engineering

This curriculum comprises four years of the necessary five years' work leading to the advanced degree of *Engineer* in Chemical Engineering. Candidates in this course receive the degree of A. B. in Chemistry upon completion of the following requirements:
First Year:—Chemistry 1, *a;* Applied Mathematics 1; German 1.
Second Year:—Chemistry 2, 6, *b*, *d;* Applied Mathematics 2, 3.
Third Year:—Chemistry 3, *c;* Engineering 1*a*, 1*b*, 2; Physics 1, 2 (or 6*a* and 6*b*); German 2*a*.
Fourth Year:—Chemistry 4, *e* (or *h*); Mechanical Engineering 11, 13; Metallurgy 9; Engineering 3*a*.

Intended particularly for students who are working toward the degree of Chemical Engineer and who desire to fit themselves for positions of responsibility in connection with the administration of industries involving chemical knowledge and skill.

Advanced Degrees

Applicants for the degree of Master of Arts in Chemistry will be expected to complete, in addition to the requirements for the bachelor's degree, the equivalent of thirty units' work in the University—of which approximately two-thirds must be in the Department. This work will

include a thesis based on laboratory work, and Chemistry 8 and *f*, if not included in the undergraduate work.

Candidates for the advanced degree of ENGINEER in Chemical Engineering will be required to complete, in addition to the requirements for the A. B. degree specified under course D: Mechanical Engineering 14, 31, 24, 36, Chemistry 8, and a thesis based on laboratory work. Electrical Engineering 1 is advised, if possible, though not required. It is estimated that these requirements may be completed in one year after the completion of the requirements under Course D.

Candidates for the degree of DOCTOR OF PHILOSOPHY in Chemistry, after the completion of the equivalent of the requirements for Master of Arts or Engineer, will follow such courses as are approved by the Department faculty, subject to general University regulations.

The TEACHER'S RECOMMENDATION.—The minimum requirement for the high school teacher's recommendation in Chemistry is courses 1 and *a* (Elementary and General Inorganic, lectures and laboratory), the first half of course 2 (Principles of Chemistry), and either the second half of course 2, or courses 6 and *b* (Qualitative Analysis, lectures and laboratory).

LABORATORY FEES.—A charge of $25 per semester will be made to students in each laboratory course of not more than four units registration. Of this charge $5 per semester in assaying, and $10 per semester in the other courses, is returnable, less bills for breakage and loss of apparatus.

BOTANY

DOUGLAS HOUGHTON CAMPBELL, GEORGE JAMES PEIRCE, Professors.
LEROY ABRAMS, Associate Professor.
LEONAS LANCELOT BURLINGAME, Assistant Professor.
JAMES IRA WILLIAM MCMURPHY, Instructor.
WILLIAM SKINNER COOPER, Lecturer on Ecology.
MYRTLE NINA PAULSON, Assistant.
GEORGIA HELEN BENTLEY, ROXANA JUDKINS STINCHFIELD, OTHO JAMES GILLILAND, JESSIE IDA WOOD, Undergraduate Assistants.

The Department of Botany aims to provide instruction for two classes of students: (*a*) Students who wish to know something of the structures, life processes, and relationships of plants and to gain some familiarity with the methods of scientific work; and (*b*) Professional students who look forward to investigation, teaching, or the technical

applications of Botany in Plant Breeding, Forestry, Agriculture, Horticulture, Plant Pathology, etc. Course 1, which presents the elements of the more important divisions of botanical study, is designed to meet the needs of both groups of students and must precede all other courses in the department, except in the case of students who have received entrance credit for its equivalent. Courses 2 to 12 are open to students who have had course 1 or its equivalent. It is the aim of these courses to give the student, by means of lectures and references to the literature, a general and summary account of the present state of knowledge, and in the laboratory and the field to afford him an opportunity for a personal acquaintance with plants themselves. Students who have had two or more years' work may, after consultation, be registered in courses 13, 14, 15, 16, or 17. The resources of the department afford exceptional opportunity for investigation in a number of fields. Properly qualified students desiring to undertake such investigation should register in courses 20, 21, or 22, after consultation with the instructor concerned.

Major students in the department will be expected to complete 34 units in the department, and Zoology 1. The thirty-four units should include courses 1, 2 or 4, 3, 6, and 7 or 8. It is strongly recommended that courses 2 and 4 be taken in the second year.

The Teacher's Recommendation for High School Botany is based on a minimum of courses 1, 2 or 4, 6, and 7 or 8.

Students looking to Forestry or Agriculture as a profession should include courses 3, 3*a*, 7, 8, 11, 12, and 17 as part of their preparation, and the following subjects in other departments: elementary physics, chemistry, geology and physiography, zoology, entomology, economics, and applied mathematics. They should also be able to read French and German.

Fees are charged in the various courses approximately sufficient to cover the cost of the perishable materials and syllabus used, as follows: Courses 1, 2, 4, 5, 6, 11, 15, 16, 17, $3.00 each; course 12, $1.00; courses 3, 3*a*, 7, 8, 9, 10, 13, 14, $5.00 each.

1. **Elementary Botany.**—Study of representatives of the principal groups of plants, with lectures upon their morphology and classification. (Campbell's University Text-Book of Botany.) Short botanical excursions will be made on five Saturdays in each semester. Attendance on these is not required, but is desirable, and will yield an additional half credit per semester.

3 or 3½ units, both semesters (Campbell, Burlingame, Peirce, Abrams) Lec. W 1:30; Lab. MT or ThF 1:30

2. Algae.—Lectures, reading, and laboratory work upon the special morphology and classification of the Algae.

5 units, 1st semester (CAMPBELL)
Lec. W 2:30; Lab. MTThF 1:30-4:30

3. Fungi.—The laboratory work (three hours) will be devoted to morphology, development, and culture methods; the lectures to systematic relationship, with an account of economically important forms.

3 units, 1st semester (MCMURPHY)
Lec. by arrangement; Lab. TTh 8:15-11:15

3a. Plant Pathology.—Lectures, laboratory, and field work on the fungous and other plant diseases.

3 units, 2d semester (MCMURPHY)
Lec. by arrangement; Lab. TTh 8:15-11:15

4. Archegoniatae.—Special morphology and classification of the Archegoniatae. Continuation of course 2.

5 units, 2d semester (CAMPBELL)
Lec. W 2:30; Lab. MTThF 1:30-4:30

5. Gymnosperms.—Studies in the morphology, classification, and distribution of the group. Particular attention will be paid to the Conifers.

3 units, 1st semester (BURLINGAME) [Not given in 1914-15.]

6. Angiosperms.—Lectures and laboratory work on the morphology and classification of the Angiosperms. Open to students who have had course 1.

3 units, 2d semester (ABRAMS) Lec. Th 1:30; Lab. ThF 1:30-4:30

7. Physiology.—Laboratory work, lectures, and reading on Nutrition. (An elementary knowledge of physics and chemistry is a desirable preliminary to this course.)

3 units, 1st semester (PEIRCE) Lec. W 2:30; Lab. MT 1:30-4:30

8. Physiology.—Laboratory work, lectures, and reading on Respiration, Growth, Irritability, and Reproduction. (An elementary knowledge of physics and chemistry is a desirable preliminary to this course.)

3 units, 2d semester (PEIRCE) Lec. W 2:30; Lab. MT 1:30-4:30

9. Botanical Technique.—Lectures and laboratory work. The methods of killing, fixing, preserving, embedding, sectioning, staining, etc., will be taught in connection with the preparation of material for study in the course.

3 units, 2d semester (BURLINGAME) [Not given in 1914-15.]

10. Plant Anatomy.—Lectures and laboratory work on the anatomy of vascular plants: special reference to the adaptation of structure to function, and to the evidence of evolution afforded by vascular anatomy.

3 units, 2d semester (BURLINGAME) Lab. ThF 1:30; Lec. by arrangement

11. Geographical Distribution and Forest Botany.—Lectures, laboratory, and field work on the trees and shrubs, and the principles of geographical distribution which they illustrate. Open to students who have had course 1.

3 units, 1st semester (CAMPBELL, ABRAMS) Lec. Th 1:30; Lab. ThF 1:30-4:30

12. Field Botany.—Field work on the classification and distribution of the local trees and shrubs. Open to students who have had course 1.

1 unit, both semesters (ABRAMS) Alternating Saturdays

13. Cytology.—Lectures and laboratory work on the plant cell; the bearings of cytology on evolution, plant breeding, etc. (Open only to those who have had courses 1 and 9. Courses 2 and 4 are desirable preliminaries.)

3 units, 1st semester (BURLINGAME) MF 9:15-12:15

14. Archegoniatae.—Advanced work in special groups.

1st and 2d semesters (CAMPBELL) By arrangement

15. Taxonomy.—A critical study of some family or genus, with special reference to nomenclature and the methods of investigation. The laboratory and herbarium work will be supplemented by field work.

(ABRAMS) By arrangement, either semester

16. General Ecology.—A study of the relations of plants to their habitats; the principles of plant association and succession, derived from a field study of the vegetation of the Palo Alto region; laboratory study of the dominant forms of each association. Lectures, laboratory, and field work.

3 units, 1st semester (COOPER) By arrangement

17. Forest Ecology.—Anatomy and physiology of forest trees; forest influences and dynamics; forest regions of North America, their relations to climate and soil. Lectures and laboratory work; occasional field trips.

3 units, 2d semester (COOPER) By arrangement

20. Research in Morphology.
(Campbell, Burlingame)

21. Research in Physiology.
(Peirce)

22. Research in Taxonomy and Geographical Distribution.—Western America with its great diversity of climate and topography affords innumerable problems for investigation in taxonomy and plant distribution. The University collections, officially known as the Dudley Herbarium, are rich in material from this region and offer favorable facilities for the pursuit of studies along these lines. (Abrams)

PHYSIOLOGY AND HISTOLOGY

Oliver Peebles Jenkins, Frank Mace McFarland, Professors.
Clara S. Stoltenberg, Associate Professor.
James Rollin Slonaker, Frank Walter Weymouth, Assistant Professors.

Undergraduate Courses

1. General Anatomy and Physiology.—This course is designed to give a general view of the laws of the structure and the activity of organisms. The work will give occasion to discuss many questions of General Biology. It consists of: First, the study of the cell and its activities as shown in the unicellular organisms, in reproductive cells, and in individual cells of many tissues; second, the study of the laws and course of development resulting in higher differentiations in structure, and specializations in function, exhibited in a selected series of organisms, both animals and plants, of increasing complexity; third, the comparative study of the physiological processes of forms placed under widely different conditions. The latter part of the course is occupied with an introduction to the embryology, anatomy, and physiology of vertebrates. (One lecture and five laboratory hours per week.)

3 units, both semesters (Jenkins, Weymouth)
Lec. M 1:30; Lab. MT 1:30-4:30

2. Physiology of Muscle and Digestion.—To be preceded by courses 1 and 9 by majors in the Department. An experimental course covering the ground represented in Howell's Text-book on the same subjects. (Two lectures and five laboratory hours per week.)

4 units, 1st semester (Jenkins, Slonaker)
Lec. TTh 8:15; Lab. MT or ThF 1:30-4

3. Physiology of Blood and Circulation, Respiration, Elimination of Wastes, Metabolism, and Nutrition.—Planned to follow course 2. An experimental course, covering the ground represented in Howell's Text-book. (Two lectures and five laboratory hours per week.)

4 units, 2d semester (JENKINS, SLONAKER)
Lec. TTh 8:15; Lab. MT or ThF 1:30-4

4. Anatomy and Histology of the Sense Organs.—Dissections, and study of prepared slides. Texts: Quain-Schäfer's Microscopic Anatomy, Quain's Sense Organs. One lecture and five laboratory hours per week. Prerequisites for courses 4 and 5 are courses 1 and 9, for majors in the Department.

3 units, 1st semester (STOLTENBERG)
Lec. W 8:15; Lab. MW 8:15-12:15, or MT 1:30-4:30

5. The Nervous System.—A study of the structure of the central nervous system of man by means of dissections and prepared slides, supplemented by dissections of central nervous system of other mammals. Text required: Villiger's Brain and Spinal Cord; supplementary texts: Barker's Nervous System, Edinger's Nervöse Centralorgane, Johnston's Nervous System of Vertebrates, Quain's Neurology, Van Gehuchten's Système Nerveux. (One lecture and six laboratory hours per week.)

3 units, 2d semester (STOLTENBERG)
Lec. W 8:15; Lab. MW 8:15-12:15, or MT 1:30-4:30

6. Physiology of the Nervous System and Sense Organs.—An experimental course in these subjects, requiring courses 4 and 5 as preliminary. (One lecture and five laboratory hours per week.)

3 units, 2d semester (JENKINS, WEYMOUTH)
Lec. Th 1:30; Lab. ThF 1:30-4:30

7. The Vertebrate Eye.—A comparative study of the structure of the eyes of vertebrates, giving special attention to the retina. Open to advanced students. (Lecture and laboratory work, six hours per week.)

2 units, 2d semester (SLONAKER) By arrangement

8. Special Courses in Physiology.—Advanced courses open only to those who have had courses 1, 2, 3, 4, 5, and 6. They are arranged for the advanced study of selected subjects in physiology, or as a drill in the methods of research. The work will be planned for the individual student, the time varying with the exigencies of the case.

2 to 5 units, both semesters (JENKINS) By arrangement

9. Histology.—The study of the structure of the cell and its modes of reproduction, the epithelial, muscular, nervous, and connective tissues, and the outline of their development in a comparative way occupy the first semester. During the second semester the structure of the blood and lymph, and the microscopic anatomy of the organs are dealt with. Text required: Quain-Schäfer's Microscopic Anatomy. Elementary histological technique is taught during the course. In either semester a limited number of students may register for an extra unit, which is devoted to more extended histological technique. Prerequisite for course 9, course 1, or its equivalent. (One lecture and five laboratory hours per week.)

3 units, both semesters (McFarland)
Lec. Th 9:15; Lab. TTh 9:15-12:15

10. Histogenesis.—A course in advanced Histology for students who have completed courses 1 and 9, and in addition the first semester of Vertebrate Embryology (Zoology 11). It comprises the comparative study of the histogenesis of the fundamental vertebrate tissues and organs. (One lecture per week, minimum laboratory work six hours per week.)

3 units, 1st semester (McFarland) Lab. MTW 1:30-4:30

11. Neurocytology.—A comparative study of the minute structure of the nerve cell and nerve fibre, the neurone theory, and the question of functional alterations of structure during normal activity and artificial stimulation. (One lecture and at least six laboratory hours per week.) Open to advanced students.

3 to 5 units, 2d semester, in alternate years (McFarland)
MTW 1:30-4:30

12. Cellular Biology.—A course in Cytology dealing with the structure and functions of the cell, with special reference to the reproductive processes in unicellular and multicelluar organisms, and the theories connected therewith. Open to advanced students. (Two lectures per week, with demonstrations and laboratory work.)

3 to 5 units, 2d semester, in alternate years (McFarland)
MTW 1:30-4:30

13. Special Courses in Histology.—Advanced courses in Histology, Cytology, and Microscopic Anatomy will be arranged for individual students, in accordance with their individual needs. Open only to those who have had courses 1, 4, and 9.

2 to 5 units, both semesters (McFarland) By arrangement

14. Journal Club.—Students in the advanced classes will be expected to meet once a week to discuss current literature in Physiology and Histology.

1 unit, both semesters (Department Faculty) By arrangement

15. Research in Physiology or Histology.

(Jenkins, McFarland, Slonaker, Stoltenberg, Weymouth) By arrangement

Candidates for the Bachelor's degree who select Physiology and Histology as a major will be expected to take courses 1, 2, 3, 4, 5, 6, 9, and 14, and at least five units to be made up from the other courses offered in the Departments of Physiology, Anatomy, or Bacteriology; and in addition courses 1 and *a* in Chemistry, one year in Physics (see course 7), and the first semester in Embryology (course 11 in Zoology). Candidates for the degree of M. D. will also include Organic Chemistry and courses in German or French sufficient to give a reading knowledge of the language.

Laboratory Unit of Credit.—In those courses in which definite laboratory time is not fixed, three hours of laboratory work per week through one semester are taken as the equivalent of one unit of credit.

The Teacher's Recommendation.—Students who wish the Department recommendation for High School teaching in Physiology are expected to complete courses 1, 2, 3, and 9.

Laboratory Fees.—$5 per semester for each laboratory course.

Graduate Courses

The graduate work of the Department is included in the courses 7, 8, 10, 11, 12, 13, 14, and 15. Undergraduate students may elect such of these courses as they are prepared to take, but credit recorded in undergraduate standing will not count toward a higher degree. The details of the work of a graduate student will be planned for each individual, and will naturally depend on the aim sought by him and upon his previous training. Candidates for the higher degrees will be expected to include in their work attendance on the Journal Club and Seminary, the selection of certain of the courses given above, and the accomplishment of some research. When it is desired to select a minor subject, the choice of such minor will be guided by the needs of the candidate. The work leading to these degrees is of such a nature as to require a reading knowledge of German and French for its accomplishment.

Preparation for the Study of Medicine

Students intending to enter on the study of Medicine are advised to take Physiology and Histology as a major subject, with Chemistry, Physics, and Anatomy among the collateral subjects. Such a curriculum gives that foundation both in scientific knowledge and in skill in experimental Physiology, and in Histological and Anatomical technique, which will make it possible to accomplish the medical course of the best medical schools with the greatest advantage. The courses required for graduation in the Department of Physiology and Histology with the degree of A. B. include the premedical requirements and the work of the first year of the Medical Department of this University. For details of requirements for students intending to register in the Department of Medicine see the announcement of that Department.

ANATOMY

Arthur William Meyer, Professor.
Edgar Davidson Congdon, Assistant Professor.
Ernest Risling, Technical Assistant.

Human Anatomy

1. Osteology.—Students will be expected to familiarize themselves thoroughly, on their own initiative, with the surface anatomy of the bones of the skeleton. The laboratory work will be supplemented by recitations and lectures dealing with the internal architecture, the development, growth, and regeneration of typical bones, their nutrition and innervation, the mechanics of the skeleton as a whole, and the changes it undergoes from birth to old age.

2 to 3 units, 1st semester (Meyer, Congdon)

Lec. S 8:15; Lab. W 1:30-4:30

2-3-4. Dissection of (2) the Head, Neck, and Thorax; (3) the Upper Extremity; (4) the Abdomen and Lower Extremity.—These courses are given simultaneously throughout the year and can be begun at any time. No one will be assigned to less than one of the above parts nor will credit be given for less, save by special arrangement.

2 to 5 or more units (Meyer, Congdon)

Lab. W 1:30-4:30; ThS 8:15-12:15; F 8:15-11:15.

Optional and Advanced Courses

5. Topographical Anatomy.—The work consists of laboratory study of frozen sections of the cadaver made in various planes, of dissected and specially injected preparations, supplemented by models and atlases. It is suggested that students who can afford the time supplement courses 2, 3, and 4 by the respective portions of course 7 immediately on completing the dissection of a part. Open to students who have completed courses 1, 2, 3, and 4.

1 to 5 units (Meyer) By arrangement

6. Human Embryology.—This course will be offered as soon as adequate provision can be made. Course 11 in the Department of Zoology is a prerequisite. Elective.

7. Conferences on Assigned Topics.—One to three hours a week will be devoted to a consideration of various anatomical problems and obscure relations by those who are dissecting or have dissected a given part. Special emphasis is placed on practical relations. Optional.

1 to 3 units, 2d semester (Meyer)

The facilities of the laboratory are always at the disposal of properly qualified students or physicians who desire to undertake the investigation of some problem in anatomy—gross or microscopic, or in embryology and neurology. Thesis work must be arranged for individually.

Requirements for Advanced Degrees

In addition to the requirements published in the University Register and the Announcement of the Department of Medicine, students desiring to be admitted to candidacy for the degree of Master of Arts in Anatomy must have satisfactorily completed one year's work in histology and microscopic anatomy, at least one semester of embryology, and possess a knowledge of laboratory technique adequate for the investigation to be undertaken. For admission to candidacy for the degree of Doctor of Philosophy a reading knowledge of both French and German is further required.

Deposit Fees.—A deposit of $10, to cover damage to or loss of bones, is required of all students in Anatomy. This sum, less charges for damage or loss, is returnable at the close of the academic year. Students of Anatomy who are not registered medical students are charged a fee of $15 for courses 2, 3, and 4, and $5 for course 1.

Embryology.—Development of the chick through the first three days of incubation. [Course 11 in the Department of Zoology.]

2 units, 1st semester (Price)

BACTERIOLOGY AND IMMUNITY

Wilfred Hamilton Manwaring, Professor.
Harry Johnson Sears, Instructor.
[1]Herbert Samuel Chapman, [2]Yoshio Kasama, [1]Ethel Owen, [2]Hazel May White, Teaching Assistants.
John Lockart Card, Harry Carson Coe, Russel VanArsdale Lee, William Homer Moore, Technical Assistants.
Marcus Claude Terry, U. S. Public Health Service, San Francisco.
Harold Heath, Professor of Zoology.
Rennie Wilbur Doane, Assistant Professor of Entomology.
Harold F. Gray, Health Officer of Palo Alto.

1. General (non-medical) Bacteriology.—An elementary course for students of education, economics, engineering, general biology, industrial chemistry, agriculture, and domestic science. Open only to third- and fourth-year students. Prerequisites: 6 units of biological science and Chemistry 1*a*.

5 units, 2d semester (Sears) Lec. Lab. MWF 9:15-12:15

1a. Municipal and State Control of Infectious Diseases.—Lectures parallel with course 1.

1 unit, 2d semester (Gray, Terry) Lec. Th 11:15-12:15

2. Medical Bacteriology.—Required third-semester medical course. The course is open to a limited number of first-semester medical students who register at the same time for course 3. Prerequisites: Zoology 11, Physiology 2, 3, 5, 9, and Chemistry 3.

5 units, 1st semester (Manwaring, Sears)
Lec. Lab. MW 8:15-11:15, F 1:30-4:30

2a. Introduction to Immunity.—Lectures parallel with course 2.

1 unit, 1st semester (Manwaring) Lec. T 10:15-11:15

2b. Bacteriological Chemistry.—Lectures parallel with course 2.

1 unit, 1st semester (Sears) Lec. Th 3:30-4:30

2c. Animal Inoculations and Autopsies.—Parallel with course 2.

2 units, 1st semester (Manwaring)
Lab. T 8:15-10:15, Th 1:30-3:30

2d. Elementary Serology.—Supplementary to course 2*c*. Open only to third-semester medical students.

3 units, 1st semester (Manwaring) Lec. Lab. ThF 8:15-12:15

2e. Animal Parasites and Insect Carriers of Disease.—Lectures, supplementary to course 2.

1 unit, 1st semester (HEATH, DOANE) Lec. T 11:15

3. Advanced Medical Bacteriology.—Water and milk analysis (3 units), animal inoculations and autopsies (2 units), elementary serology (3 units), medical and surgical antiseptics (2 units), advanced cultural methods (3 units), advanced microscopical technique (3 units), pathogenic protozoa (3 units), bacteriological histology (4 units), bacteriological and serological chemistry (6 units). Prerequisites: courses *2a, 2b,* and *2c.*

6 to 12 units, 2d semester (MANWARING, SEARS)
Lec. Lab. MTWTh 8:15-12:15

4. Immunity, Serum Technique.—Prerequisites: Chemistry *d* (or *k*), and course 3.

6 units, 1st semester (MANWARING)
Lec. Lab. MTW 8:15-11:15, F 1:30-4:30

5. Seminary, Journal Club.—Prerequisites: course 3 and a reading knowledge of German and French.

1 unit, both semesters

6. Medical Thesis, Research.—Prerequisite: course 3.

10 units, both semesters (MANWARING)

FEES—Medical students pay a microscope rental of $3 per semester. Non-medical students are charged the following fees, the fee in each course including the microscope rental: courses 1, 3, and 4, $10 each; course 2, $15; courses *2c* and *2d,* $5 each. Students pay for breakage and loss of apparatus.

PHYSICAL TRAINING AND PERSONAL HYGIENE

ENCINA GYMNASIUM

HERBERT ROWELL STOLZ, Director of Physical Training.

WILFRED HARRY MALONEY, Instructor.

NEIL ORRIN BEST, EARL TREFF DUTTON, JOHN DONOVAN FLINT, REX JEROME HAMAKER, ARTHUR JOHN HUTCHINSON, EDWARD DANIEL KNEASS, JR., ERNESTO RAY KNOLLIN, PERCY EARL LELAND, RICHARD LEWIS OWEN, LLOYD ROBINSON REYNOLDS, ARCHER BELL STUART, JOHN HENRY WIGGINS, Assistants.

FRANK LEONARD STILLSON, Custodian Encina Gymnasium.

It is the aim of the Department to increase physical and mental development and to instill into the mind of every student an appreciation

of the pleasure and the value which can be derived from regular exercise, especially when the exercise is obtained by participation in games. For those who require the emphasis upon specific lines of development individual supervision is given. The gymnasium, locker rooms, and showers are for the use of all the men in the University, whether or not they are registered in the regular courses of instruction.

1. **Physical Training.**—Three exercise hours per week in the gymnasium or on the athletic fields. Registration may be repeated. A regulation gymnasium uniform is required.

1 unit, each semester (Stolz and Assistants)
MWF 10:15, 11:15, 4, 5; TTh 4, 5; S 10:15

2. **Elementary Hygiene.**—The common causes of disease and the factors in its dissemination.

1 unit, each semester (Stolz) T 8:15

3. **Advanced Hygiene.**—The nature of some common diseases; their economic and social importance; their cause and course; prophylaxis against such diseases. This course is open to all students who have completed course 3.

1 unit, each semester (Stolz) Th 8:15

4. **Public Health.**—A study of the work accomplished in the betterment of general health by government boards in the United States and in other countries; the present status of preventive medicine and its future development.

1 unit, each semester (Stolz)

ROBLE GYMNASIUM

Clelia Duel Mosher, Assistant Professor and Director.
Florence Cotten Burrell, Etta L. Paris, Instructors.
Harry Wilfred Maloney, Assistant in Fencing.
Inezetta Holt, Gymnasium Assistant.

The aims of Roble Gymnasium, which is the laboratory of personal hygiene, are (1) to improve the standard of physical health of the women and to increase their mental and physical efficiency; (2) to give some of the preliminary work to students who are preparing to teach physical training and direct playground work.

1. **Physical Training and Personal Hygiene.**—Three hours per week in the gymnasium or its open air divisions. Open to all women students. Registration may be repeated each semester, but the student

must show steady progress toward her highest physical efficiency. The Stanford regulation gymnasium suit is required. All work is under the close supervision of the Medical Director.

First Year—Gymnastics, Folk and Gymnastic Dancing, Elementary Sports.

Second, Third, and Fourth Years—Gymnastics, Folk and Gymnastic Dancing, Sports or Fencing.

1 unit, each semester (Mosher, Maloney, Burrell, Paris)
(1st year Gymnastics) MWF 10:15, 11:15; (Elementary Gymnastic and Folk Dancing) TThF 10:15; (Advanced Gymnastic and Folk Dancing) TThF 11:15; (Elementary Sports) MTWTh 11:15, MWF 3:30; (2d, 3d, and 4th year Advanced Sports) MTWThF 4:30; (Advanced Gymnastics) MWF 4:30; (Intermediate Gymnastic and Folk Dancing) MWF 4:30; (Elementary Fencing) MWF 11:15; (Advanced Fencing) TThF 10:15.

2. Personal Hygiene.—Two lectures per week. Open to all women students. Required of all women taking courses 3 to 6.

2 units, 2d semester (Mosher) TTh 10:15

3. Physical Training Theory.—Open only to students who have had Elementary and Advanced Gymnastics, Personal Hygiene 2, Zoology 10, or Anatomy.

2 units, 1st semester (Paris) TTh 3:30

4. Practice Teaching.—Two hours per week. Open to students who have had course 3.

1 unit, 2d semester (Paris) TTh 3:30

5. Playground Theory and Administration.—Lectures, recitations, and field work, with reference readings and papers. Open only to students who have had one or more years of Physical Training 1, and Personal Hygiene 2.

2 hours, 2d semester (Burrell) TTh 10:15

6. Supervision of Children's Play.—Three hours per week. Open only to students taking course 5.

1 unit, each semester (Burrell)

Women who purpose attending later a School of Physical Training as preparation for being directors of Physical Training or supervisors of playground work should take the subjects listed below in addition to the courses offered in this department. Such students will find it advantageous to major in Zoology; if other majors are desired students are requested to consult the Director.

Zoology.—1. Elementary. (3 units, both semesters)
3. The Vertebrates (Field Work). (2 units, both semesters)
7. Microscopical Anatomy. (2 units, first semester)
11. Embryology. (2 units, both semesters)
Anatomy.—1. Osteology. (2 or 3 units, 1st semester)
2, 3, 4. Dissections of (2) Head, Neck, Thorax, (3) the Upper Extremity, (4) Lower Extremity and Abdomen. (2 to 5 units or more)
7. Topographical Anatomy.
Physiology.—2. Muscle and Digestion. (4 units, 1st semester)
3. Blood and Circulation, Respiration, Elimination of Wastes, Metabolism, and Nutrition. (4 units, 2d semester)
Psychology.—Either course 1 or course *a*.
1. Elementary Psychology. (4 units, 1st semester)
1*a*. Mental Hygiene. (2 units, 1st semester)
Botany.—12. Field Botany. (1 unit, both semesters)
Entomology.—1. Elementary. (3 units, either semester)
English.—Vocal Expression. (3 units, either semester)
Economics.—1. Elements. (3 units, both semesters)
Mechanical Engineering.—5. Woodworking.
(2 exercises a week, one semester)

ZOOLOGY

Charles Henry Gilbert, Harold Heath, George Clinton Price, Professors.
†John Otterbein Snyder, Associate Professor.
Edwin Chapin Starks, Walter Kendrick Fisher, Assistant Professors.

[Courses 1, 2, and 3 may be undertaken without previous preparation in Zoology.]

1. Elementary Zoology.—A laboratory course involving the study of representatives of the principal groups of animals, accompanied by lectures on their structure and classification, and on the general laws of biology which they illustrate. The course may be begun the second semester by students matriculating at that time.

3 units, both semesters (Price, Starks)
Lec. M 1:30; Lab. MT 1:30-4:30

†Absent on leave, first semester, 1914-15.

2. **Elementary Zoology (special).**—A laboratory course for beginners designed to meet the needs of major students in Geology. A considerable number of forms in each of the principal groups will be studied, and attention will be given to the conditions under which animals live. Field trips will constitute a required part of the course.

2 units, both semesters (FISHER) Lec. M 1:30; Lab. MT 1:30-4:30

3. **The Vertebrates.**—A general course in the classification of vertebrate animals, with studies in their habits and the geographical distribution of species. The course will include field excursions and a study of the methods of collecting and preserving specimens. The course may be begun either semester.

2 units, both semesters (SNYDER, FISHER)
Lec. Th 2:30; Lab. ThF 1:30-4:30

4. **The Invertebrates.**—This course, following course 1 or 2, is designed to give the student a broader knowledge of the morphology and relationships of the more important invertebrate groups.

3 units, both semesters (HEATH)
Lec. by arrangement; Lab. MT 1:30-4:30

5. **Invertebrate Embryology.**—A study of segmentation, the formation of the germ layers, and certain phases of the later development, including the significance of larval forms and the relationships of the principal phyla. Must be preceded by courses 1 or 2, and 4.

2 units, both semesters (beginning 2d semester) (HEATH)
Lab. ThF 1:30-4:30

6. **Advanced Work on Invertebrates.**—The original investigation of problems connected with the anatomy and embryology of invertebrates.

3 to 5 units, both semesters (HEATH) By arrangement

7. **Microscopical Anatomy.**—A study of the fundamental animal tissues, with drill in microscopical technique.

2 units, 1st semester (HEATH) Lab. ThF 1:30-4:30

8. **Classification of the Invertebrates.**—A course designed to give a wider acquaintance with the larger groups of marine invertebrates. Must be preceded by either course 1 or 2.

3 units, both semesters (FISHER) By arrangement

9. **Special Systematic Work on Invertebrates.**—Original investigation of problems connected with the classification of invertebrates.

2 or 3 units, both semesters (FISHER) By arrangement

10. **Comparative Anatomy of the Vertebrates.**—A detailed examination of vertebrate morphology, including dissection of representatives

of the several classes of vertebrates, with comparative studies in vertebrate osteology, the nervous and circulatory systems, etc.

3 units, both semesters (SNYDER) Lab. MTW 1:30-4:30

[Not given first semester, 1914-15.]

11. Vertebrate Embryology.—First semester: development of the chick through the first three days of incubation. Second semester: the early stages in the development of the salamander and the later stages in the development of the mammal.

2 units, both semesters (PRICE) Lec. Th 1:30; Lab. ThF 1:30-4:30

12. Ichthyology.—A course of lectures and laboratory work, including an examination of the larger groups of fishes with special reference to the characters on which they are based, and including practical work in the discrimination of species.

2 units, both semesters (GILBERT) WThF 1:30-4:30

13. Advanced Ichthyology.—Special problems in the morphology and classification of fishes will be set for advanced students prepared for such work.

2 to 5 units, both semesters (GILBERT) By arrangement

14. Comparative Osteology of the Lower Vertebrates.—A course for advanced students in the osteology and relationships of the lower vertebrates, to be arranged either as a general course, or as an intensive study of a few related forms.

2 or 3 units, both semesters (STARKS) By arrangement

15. Journal Club.—Open to seniors and graduate students.

2 units, both semesters (GILBERT) By arrangement

Major students must before graduation complete courses 1, 3, 4, 7, 10, 12, 14, the first semester of courses 5 and 11, one advanced course in Zoology, and course 1 in Botany.

Work for graduate and special students will be laid out in accordance with their individual needs and preferences.

Students who look forward to the study of medicine may take Zoology for their major subject and receive the B. A. degree at the close of a four years' course which shall also contain the first year in medicine. The following courses in Zoology will be required of such students: Zoology 1, 6 units; The Invertebrates, 6 units; Comparative Anatomy, 6 units; Embryology, 4 units; Journal Club, 4 units.

The TEACHER'S RECOMMENDATION.—The Department recommendation for High School teaching in Zoology requires the completion of the following subjects: Elementary Zoology, 6 units; the Inverte-

brates, 6 units; the Vertebrates, 4 units; Comparative Anatomy of the Vertebrates, 6 units.

The Zoological Collections

The Zoological Museum contains a very full representation of the fishes of North America, and includes among others a valuable series of the deep-water fishes of the Pacific, and large collections from the West Indies, the Hawaiian Islands, Bering Sea, Japan, the coasts of Mexico and Central America, and the Galapagos Islands. The museum contains also a large representation of the reptiles, batrachians, birds, and mammals of California and adjoining States. The collection of marine invertebrates is rich in Pacific echinoderms and crustacea, and contains a good working nucleus in the other principal groups. The series of deep-sea forms is especially valuable.

Laboratory Fees.—All laboratory courses, $3 each per semester.

ENTOMOLOGY AND BIONOMICS

Vernon Lyman Kellogg, Professor.
Mary Isabel McCracken, Rennie Wilbur Doane, Assistant Professors.
May Knight Bell, Fred Matlock Trimble, Assistants.
Gordon Floyd Ferris, Undergraduate Assistant.
David Starr Jordan, Lecturer.

ENTOMOLOGY

1. Elementary Entomology.—The elementary study of insect structure, development, and classification, including practice in collecting and preserving specimens. A preparatory study of the subject of entomology.

3 units, either semester (McCracken) MWF any forenoon hours

2. Morphology and Physiology of Insects.—A study of the metamorphosis, comparative morphology, and special physiology of insects.

3 units, either semester (McCracken) MWF any forenoon hours

3. The Honey-bee and Apiculture.—A study of the structure and habits of the honey-bee, and of the methods of bee-keeping.

2 units, either semester (McCracken) Hours by arrangement

4. Economic Entomology: Coccidae (the Scale Insects).—A study of the classification, general biology, and economic relations of the

scale insects, with particular attention to the more important injurious ones of the Pacific Coast. Field, laboratory, and bibliographic work, with occasional lectures. Must be preceded by courses 1 and 2.

2 or 3 units, either semester (DOANE)

Any three afternoons, 1:30-4:30

5. Economic Entomology: Forest Insects.—A study of the insect enemies of forest and shade trees. The course includes field, laboratory, and bibliographic work. Should be preceded by course 3.

3 units, 1st semester (DOANE) MWF 1:30-4:30

6. Economic Entomology: Orchard and Garden Insects.—A study of the principal injurious and beneficial insects of the orchard and garden. Includes field, laboratory, and bibliographic work, and a weekly lecture on the history, principles, and practice of economic entomology. Should be preceded by course 3.

3 units, 2d semester (DOANE) MWF 1:30-4:30

7. Economic Entomology: Advanced Work.—Studies of one or more groups of insects of economic importance, including systematic ecological investigations, and methods of controlling the injurious species. Field, laboratory, and library work, with occasional lectures. Intended for students fitting themselves for practical work in Economic Entomology. Open to advanced students by arrangement.

3 to 5 units, both semesters (DOANE)

8. Insects and Disease.—A discussion of the insects that cause or disseminate some of the diseases in man and the domestic animals. Lectures and demonstrations. Open to students having some previous training in biology.

2 units, 2d semester (DOANE) Lec. TTh 9:15

9. Classification of Insects.—A study of the classification of insects, and the literature of systematic entomology. Field and laboratory work.

4 units, either semester (MCCRACKEN) Forenoon hours

10. General Entomology and Insect Adaptations.—A course of lectures and demonstrations. Open to students who have had some work in Biology (Entomology, Zoology, Botany, or Physiology).

2 units, 1st semester (KELLOGG) Lec. TTh 9:15

11. Insect Histology and Histologic Technic.—The study of the histology of insect tissues and organs, and the special methods of such study.

2 or 3 units, 1st semester (KELLOGG) Hours by arrangement

12. Advanced Work.—Advanced study and investigation of the biology of insects. Laboratory and field work.

2 to 5 units, both semesters (KELLOGG) Any forenoon hours

BIONOMICS

13. Organic Evolution.—Lectures on the laws or principles of biology and the factors in organic evolution. Not open to first- and second-year students.

2 units, 1st semester (JORDAN, KELLOGG) MWF 10:15

14. Heredity.—A discussion of the modern knowledge of heredity with special reference to human inheritance. Not open to first- and second-year students.

2 units, 2d semester (KELLOGG) TTh 10:15

Work for graduate and special students will be specially arranged.

Major students in Entomology must obtain before graduation thirty units of credit in Entomology, and credit for course 1 in Zoology, and course 1 in Botany.

The ENTOMOLOGICAL COLLECTIONS contain authoritatively determined specimens, accessible for comparison, in all of the insect orders, and include many sets of specimens illustrating the development and habits of insects. There is included, also, the most important existing collection of North American Mallophaga, comprising the types of four-fifths of all the species so far described from North America and the Pacific Islands, an unusually large collection of Coccidae (scale insects), and a valuable series of specimens from the Galapagos Islands, Samoa, and the Philippine Islands.

LABORATORY FEES.—$3 per semester for each laboratory course.

GEOLOGY AND MINING

GEOLOGY

JOHN CASPER BRANNER, JAMES PERRIN SMITH, Professors.

AUSTIN FLINT ROGERS, CYRUS FISHER TOLMAN, JR., Associate Professors.

CARL H. BEAL, Curator in Geology.

DAVE PIERCE CARLTON, Assistant in Mineralogy.

SADIE KEEN, Stenographer.

Students intending to make Geology their major subject should offer, as a part of their entrance preparation, solid geometry, trigonometry,

physics, chemistry, zoology, and French or German, or both; otherwise the mathematics, physics, chemistry, and language must be taken in the University.

1. Dynamic and Structural Geology.—Lectures, with syllabus.
3 units, 1st semester (BRANNER) MWF 8:15

1a. Physiography.—Lectures, with syllabus. Open to students who have completed course 1.
1 unit, 2d semester (BRANNER) W 8:15

1b. Field Excursions.—Open to Geology and Mining Majors only.
2 units, 1st semester (TOLMAN) Saturday forenoons

2. Economic Geology.—Lectures, with syllabus. Open to students who have completed course 1.
2 units, 2d semester (BRANNER, TOLMAN) TTh 8:15

2a. Ore Deposits.—Supplementary to course 2. Open to students who have completed or are taking course 5.
1 unit, March and April (TOLMAN) MF 8:15

3. Topographic Geology.—Field and laboratory work, with the construction of geologic maps and sections. Open to students who have completed course 1 in Geology and course 4*a* in Civil Engineering, and course 5*c* in the case of students not majoring in the Department.
4 units, summer vacation (BRANNER, TOLMAN)

4. Field Geology.—Field practice in working out geology in the field and its representation upon topographic maps and sections. Prerequisites: Geology 1 and 1*b*, and Civil Engineering 4*a*. Students not majoring in the department may substitute 5*c* in place of 1*b*.
5 units, summer vacation (BRANNER, TOLMAN)

5. Mineralogy.—(*a*) Methods of study and the determination of minerals, including Crystallography and Blowpipe Analysis (first semester); (*b*) Study of common and important minerals (second semester). (Rogers' Introduction to the Study of Minerals). Open to students who have taken or are taking qualitative analysis.
3 units, both semesters (ROGERS, CARLTON)
(1st sem.) Lec. WF 11:15; Lab. 1:30-4:30; (2d sem.) Lec. ThF 11:15; Lab. 1:30-4:30

5c. Mineralogy.—Sight determination of the common minerals. Open to a limited number of students.
1 unit, 2d semester (ROGERS) ThF 11:15

6. Petrography.—(*a*) Crystal optics and study of rock-forming minerals in thin sections and hand specimens (first semester); (*b*)

study of the principal rock types, igneous, sedimentary, and metamorphic (second semester). Open to students who have completed course 5 or equivalent.

2 units, both semesters (ROGERS)

(1st sem.) Lec. T 11:15, Lab. 1:30-4:30; (2d sem.) Lec. W 11:15, Lab. 1:30-4:30

7. Paleontology.—(*a*) Systematic Paleontology, or the history and character of organisms (first semester); (*b*) Historical Geology, or the history and character of geologic formations (second semester). Open to students who have completed course 1.

4 units, both semesters (SMITH) MTTh 11:15

8. Paleontology.—Original investigation of various problems in paleontology, especially of invertebrate morphology, and of the distribution of faunas. This course will consist entirely of private work, in field and laboratory. Open to advanced students and graduates.

2 to 5 units, both semesters (SMITH) By arrangement

8a. Systematic Conchology.—Studies in the living and Tertiary mollusca, especially of the West Coast. Open to students who have taken or are taking Zoology 1 or 2.

2 units, both semesters (SMITH) ThF 1:30-4:30

9. Advanced Mineralogy.—Properly qualified advanced and graduate students may take up one or more of the following subjects:

a. Paragenesis of Minerals. The occurrence, association, and origin of minerals. Mineralogy and petrography are prerequisites.

3 units, 1st semester (ROGERS) By arrangement

b. Chemical Mineralogy. Mineral or rock analysis, including preparation of material and study of some physical properties. Chemistry *e* is a prerequisite. 2 to 4 units, either semester (ROGERS)

c. Crystallography. The study of the solid state from both a theoretical and practical standpoint, including crystal morphology, crystal optics, and chemical crystallography.

2 to 4 units, both semesters (ROGERS)

10. Paleontology.—Lectures on special topics, and special studies in regional geology. Open to advanced students and graduates.

2 units, both semesters (SMITH) TTh 10:15

11. Special Courses.—Special courses of construction and training are laid out for advanced and special students according to the needs and qualifications of each individual. Special investigations are taken

up by advanced students as rapidly as it is possible for them to undertake such work advantageously. Such investigations may include field work, study of geological literature, and laboratory work. Advanced work in ore deposits includes the study of ore and gang minerals by means of both the ordinary and the reflecting microscope.

1 to 5 units, both semesters (BRANNER, TOLMAN)

11a. Ore Deposits.—Advanced course. Prerequisites: Geology 1, 2, and 9*a*.

3 units, 2d semester (TOLMAN) MWF 9:15

FEES.—Course 1, $3; course 2, $3; course 3, $15; course 4, $20; course 5, $5 each semester; course 11*a*, $2.

MINING AND METALLURGY

DAVID MORRILL FOLSOM, GALEN HOWELL CLEVENGER, Associate Professors.

VALENTINE RICHARD GARFIAS, Acting Assistant Professor.

HAYES WILSON YOUNG, Instructor.

KENNETH PYLE, Undergraduate Assistant in Metallurgy.

Students intending to make Mining and Metallurgy their major subject should offer as a part of their entrance preparation, solid geometry, trigonometry, advanced algebra, physics, chemistry, zoology, and Spanish, French, or German; otherwise the mathematics, physics, chemistry, and one language must be taken in the University.

The Department offers to students a five-year curriculum leading to the degree of Mining Engineer or Metallurgical Engineer.

The degree of Bachelor of Arts will be granted upon the satisfactory completion of four years of this curriculum.

MINING

The following is a general summary of the curriculum in Mining, which will be subject to adjustment in individual cases:

FIRST YEAR—Applied Mathematics 1 (10 units); Engineering 1*a*, 1*b* (6 units); Chemistry 1, *a* (6 units); English *A*, 2 (3 units); Language—French, German, or Spanish (6 units). Total, 31 units.

[None of the first-year subjects offered in the second semester can be taken without the first semester's work. First-year students can therefore advantageously enter the course as outlined above only at the beginning of the first semester.]

SECOND YEAR—Applied Mathematics 2, 3 (16 units); Mechanical Engineering 11 (2 units); Chemistry 6, *b*, *d* (8 units); Geology 5 (6 units); English 2*b* (2 units). Total, 34 units.

THIRD YEAR—Engineering 2, 3 (10 units); Civil Engineering 4*a* (5 units); Mechanical Engineering 1*a*, 1*b* (3 units); Geology 1, 2, 6 (12 units); Mining 8 (4 units). Total, 34 units.

FOURTH YEAR—Chemistry *h* (3 units); Geology 3, 4, 7*b* (13 units); Mining 1, 2, 4, 9, 10, *a* (16 units); Electrical Engineering 1 (4 units). Total, 39 units.

Geology 3 and 4 (9 units) are given during the summer vacation, between the third and fourth years.

In the fourth year Mining *b* (3 units) or Civil Engineering 8*c* (3 units) are electives. Mechanical Engineering 31 and 24 may be substituted for Engineering 3.

FIFTH YEAR—For the degree of Mining Engineer the following curriculum is suggested: Mechanical Engineering 35, 36 (6 units); Civil Engineering 8*b* (3 units); Geology 9*a*, 11*a* (6 units); Mining 3, 5, 6, 7, *b* (21 units). Total, 36 units.

1. General Lectures on Mining.—Including methods of earth and rock excavation, prospecting, tunneling, shaft sinking, and mining methods. Open to students who have completed Geology 1 and 2.

5 units, 1st semester (FOLSOM, ———) MTWThF 10:15

2. Ore Dressing.—Lectures on crushing and concentrating machinery and methods.

2 units, 2d semester (CLEVENGER, FOLSOM) TTh 9:15

3. Summer Mining.—Two months' systematic work in the mines. Between fourth and fifth years.

4 units

4. Lectures on Mine Plant.—Including hoisting machinery, compressors, mine pumps, ventilating fans, and the handling of ore underground and on the surface.

3 units, 2d semester (FOLSOM) MWF 8:15

***5. Ore Dressing.**—Continuation of course 2. Theories of concentration and comparison of milling practice in different parts of the United States.

2 units, 1st semester (FOLSOM) By arrangement

***6. Mine Engineering.**—Lectures and assigned reading on general engineering problems in connection with mining operations, including

*For fifth-year students only.

administration, organization, mine examinations, accounting, surveying, etc.

2 units, 2d semester (Folsom) By arrangement

7. Mine Thesis.—Each student describes and estimates the cost of the development and equipment of an hypothetical mining property under conditions which are assigned so as to fit the experience he has gained in his summer work.

5 units, both semesters (Folsom)

11. Petroleum Technology.—Lectures on methods of drilling, pumping, and transporting oil.

3 units, 2d semester (Garfias) MWF 9:15

Metallurgy

Students working for the degree of Metallurgical Engineer will be required to take the same work for the first three years as the Mining Engineers.

In the fourth and fifth years the following courses must be substituted for engineering courses: Chemistry 2, 8, *e* (16 units).

A thesis on a metallurgical subject and advanced laboratory work will also be required in the fifth year.

The following four-year curriculum is offered for the degree of Bachelor of Arts:

First Year—Applied Mathematics 1 (10 units); Engineering 1*a*, 1*b* (2 units); Mechanical Engineering 11 (3 units); Chemistry 1, *a* (6 units); English *A*, 2 (3 units); Language—French, German, or Spanish (6 units). Total, 30 units.

Second Year—Chemistry 2, 6, *b*, *d* (14 units); Geology 5 (6 units); Civil Engineering 4*a* (5 units); English 2 (2 units); optional (3 units). Total, 30 units.

Third Year—Chemistry 10, *e*, *h* (9 units); Geology 1, 2, 3, 4, 6 (18 units); Mining 2 (2 units); Mechanical Engineering 1*a*, 1*b*, 24, 31 (9 units); optional (3 units). Total, 39 units. Geology 3 and 4 (9 units) are given during the summer vacation.

Fourth Year—Electrical Engineering 1 (4 units); Mining 1, 4, 8, 9, 10, *a*, *b*, *d* (24 units). A short thesis will also be required for graduation, making a total for the year of 30 units.

The courses in Metallurgy are not open to first-year students.

Igneous Metallurgy

8. General Metallurgy.—Lectures upon the principles of metallurgy, fundamental chemical reactions, fuel, pyrometry, refractory ma-

terials, etc. Metallurgy of Copper and Lead: Lectures upon processes of lead and copper smelting, electrolytic copper refining, refining of base bullion, parting and electrolytic refining of Doré bullion. This course also deals with the metallurgy of gold and silver in so far as their metallurgy is inseparable from that of copper and lead. Open to students who have completed Chemistry 1.

4 units, 2d semester (CLEVENGER, YOUNG) TWThF 10:15

9. Metallurgy of Constructive Materials.—Lectures upon the manufacture and properties of iron and steel, and to a less extent the other alloys used in engineering. Bearing metals, bronzes, brasses, etc. Laboratory work in this course is given in connection with Engineering *2b* (Mechanics of Materials). Open to students who have completed Chemistry 1.

2 units, 1st semester (CLEVENGER) TTh 8:15

HYDRO METALLURGY

10. Metallurgy of Gold and Silver.—Lectures upon the cyanide process of gold and silver extraction. The older and now almost obsolete processes of chlorination, hyposulphite lixiviation, patio, and pan amalgamation, etc., are dealt with very briefly. Open to students who have completed Chemistry 1 and *a*, and prerequisite of laboratory course *b*.

2 units, 1st semester (CLEVENGER) TTh 10:15

LABORATORY COURSES

a. General Metallurgy Laboratory.—A course of carefully selected experiments which illustrate the lectures in Metallurgy 8. Open to students who have completed Chemistry *h*, and course 8; in special cases may be taken at the same time as Metallurgy 8.

2 units, 2d semester (YOUNG) ThF 1:30

b. Metallurgy of Gold and Silver Laboratory.—This course involves the laboratory examination and report upon the possible treatment of gold and silver ore by the cyanide process. Open to students who have completed Chemistry *d* and *h*, and Metallurgy 10.

3 to 5 units, either semester (YOUNG) MTWThF 1:30

c. Metallography.—Conferences, reading, and laboratory work. Includes the study of micro-structure and cooling curves. Open to students who have completed Chemistry 10 and *i*, Mineralogy *5a* and *5b*, Petrography *6a* and *6b*.

3 to 5 units, either semester (CLEVENGER) 1:30, by arrangement

d. Metallurgical Research.—Properly qualified students may take up any subject of metallurgical investigation in the laboratory, and under proper restrictions, certain investigations may be carried on in the field, also work in bibliography. Any number of units, either semester.

(Clevenger) 1:30, by arrangement

Fees.—Courses 1, 8, 9, and 10, $5 each; course 4, $3; courses *a* and *b*, $10 per unit each; course *c*, $5 per unit; course *d*, according to amount of work done.

ENGINEERING

A. Entrance Subjects

Entering students whose major work is to be in any engineering department should be thoroughly prepared in elementary mathematics, and should have entrance credit in algebra (at least one and one-half units), plane and solid geometry, and plane trigonometry, in order to be able to take the first year's work in Applied Mathematics for engineers.

B. General Courses

I. APPLIED MATHEMATICS

First Year—Course 1 in Applied Mathematics.
Second Year—Courses 2 and 3 in Applied Mathematics. (See announcement of Department of Applied Mathematics, p. 155.)

II. GENERAL TECHNICAL COURSES

1a. Linear Drawing and Lettering.—(Drafting two afternoons a week, first half of the semester.) Open to all students, and required of those whose major subject is in any of the engineering departments, whether or not they have received entrance credit in mechanical drawing. This requirement is waived, however, for a student who satisfies the instructor that he has had the equivalent of this course, by submitting work in linear drawing and freehand lettering, or by passing a special examination. The instruments and materials for this course cost from twenty to thirty dollars.

1 unit, either semester (Foss) MT or ThF 1:30-4:30

1b. Descriptive Geometry. — Including applications to shades, shadows, and perspective. (Two afternoons of drafting each week, November and December. Two lectures and two afternoons of drafting each week, January to May.) This course is open to students who have completed or who are taking Solid Geometry and Engineering 1*a*, and is required of students whose major subject is in any of the engineering departments.

1 unit, 1st semester; 4 units, 2d semester (Foss)
Lec. TTh 8:15, 10:15; Dft. MT or ThF 1:30-4:30

2. Applied Mechanics:—

a. Mechanics of Materials.—A theoretical study of the strength and elastic properties of the ordinary materials of engineering construction. The main subjects covered are simple tension, compression, and shear; flexure, with application to simple, continuous, and non-homogeneous beams; long columns; torsion; repeated stress; sudden stress and resilience. (Lectures and recitations three hours a week.)

b. Testing of Materials.—Each student is required to make a series of experiments, testing the strength and elastic properties of structural materials. A careful record of all experiments is required of very student. (Laboratory work, six hours a week.)

Open to students who have completed the first- and second-year courses for Engineering students in Applied Mathematics; required of all students having Engineering as a major subject.

5 units, 1st semester (Wing, Moser)
Lec. MWF 9:15; Lab. MWF 10:15-12:15, or MT or ThF 1:30-4:30

3. Hydraulics:—

a. Theoretical Hydraulics.—This course treats of fluid pressure, the principles of fluid equilibrium, and the laws governing the flow of water through orifices, over weirs, in closed conduits, and in open channels, followed by a study of the basal theory of hydraulic turbines. Open to students who have completed courses 2 and 3 in Applied Mathematics.

5 units, 2d semester (Hoskins) MTWThF 9:15

b. Experimental Hydraulics.—Including the calibration and use of instruments for the measurement of pressure, velocity, and flow of water under various conditions; the investigation of friction in pipes, bends, valves, and other obstructions, etc. Six hours per week in the

laboratory on experimental work, computations, and reports. Open to students who have taken or are taking Engineering *3a*.

2 units, 2d semester (Eckart, Moser)

MT 1:30-4:30 (for C. E. majors); MWF 10:15-12:15 (for M. E. majors); ThF 1:30-4:30

[*Note.*—See also Hydraulic courses listed under Mechanical Engineering: Testing of Hydraulic Machinery (M. E. *26*); Hydraulic Power Stations (M. E. *35b*).]

Laboratory Fees—Course *2b*, $2; *3b*, $4.

I. CIVIL ENGINEERING

Charles David Marx, Charles Benjamin Wing, Leander Miller Hoskins, John Charles Lounsbury Fish, William Rankine Eckart, Professors.

John Harrison Foss, Assistant Professor.

Charles Moser, Instructor.

A. Topographic Engineering

4a. Elementary Surveying.—Recitations: systems of co-ordinates, measurements, choice of systems, errors, checks, surveys, graphical solution of topographic problems. Field-work: experimental exercises, surveys. Drafting-room: computing, mapping. (Recitations two hours, field work and drafting nine hours, each week.) Open to students who have completed Engineering *1a* and Applied Mathematics 1. Required of students in Civil and Mining Engineering.

5 units, 1st semester (Fish)

Rec. TTh 9:15; Dft. M 1:30-4:30; Field ThF 1:30-4:30

4b. Elementary Surveying.—For students in Mechanical and Electrical Engineering. (Field work, reading, and drafting, six hours each week.)

2 units, 1st semester (Fish)

Drafting and Field ThF 1:30-4:30 (or S 9-4:30)

4c. Advanced Surveying.—Supplementary to course *4a*. Field work, computations, drafting, and use of references, in connection with work assigned to individuals or small groups according to their needs. Open by permission.

1 or more units, either semester (Fish) By arrangement

B. Railroad Engineering

6a. Railroad Surveying.—Recitations: circular curves, spirals and turnouts; reconnaissance, preliminary and location surveys; earthwork. Field and office: exercises in laying out curves and taking cross-sections for topography and earthwork, and in plotting them; preliminary survey with profile and topographic map; paper location with profile and quantities; staking out paper location; earthwork surveys; final location profile and map; earthwork computations; distribution of material with use of mass diagram; overhaul computation. (Recitations two hours, drafting and field work nine hours, each week.) Open to students who have completed *4a*. Required of students in Civil Engineering.

5 units, 2d semester (Fish)
Rec. TTh 9:15; Dft. M 1:30-4:30; Field ThF 1:30-4:30

6b. Railroad Location.—Locomotive tractive force and resistances thereto, velocity profile, momentum grade. Traction problems involving inter-relation of train weight, grade, speed, and characteristics of locomotive. Tonnage rating. Value of change in distance, curvature, rise and fall, and ruling grade, based on analysis of operating expenses. Pusher grades, balanced grades for unequal traffic and for adjacent divisions. Open to students who have completed *6d*.

2 units, 2d semester (Fish) Rec. TTh 8:15

6c. Railroad Construction (Surveying and Engineering).—Field or office work assigned to individuals, according to their needs, along one or more of the following lines: supplementary work on simple, compound, and spiral curves, turnouts, connecting tracks, cross-sections, quantities, classification, and distribution. Excavating methods and plants. Situation and drainage surveys; preliminary plans and estimates; choice of structure and site; working drawings; staking out; inspection; estimates of work done. Collecting, recording, and filing information; computations and drawings; instructions and reports. A formal, written, detailed report is required on each engineering problem assigned. Open, by permission, to students who have completed *6a* or its equivalent.

1 or more units, either semester (Fish) By arrangement

6d. Engineering Economy.—The problem of economic selection, interest, sinking funds, first cost, salvage value and depreciation, elements of cost of service (including amortization), estimating and reliability of estimates, basis of economic comparison, procedure

in economic comparison. (Recitations and problems, six hours per week.)

2 units, 1st semester (FISH) Rec. TTh 11:15

C. Structural Engineering

8a. Elements of Design:—

1. *Materials.*—[See course 9 in Mining and Metallurgy.]

2. *Mechanics of Structures.*—Course 3 in Applied Mathematics is extended to the analytical and graphical determination of stresses in simple trusses.

3. *Theory of Structural Details.*—Section 2 above is extended to an investigation of the distribution of stresses in structural details.

Open to students who have completed course 1 in Engineering, and who have taken or are taking course 2 in Engineering, and also course 9 in Mining and Metallurgy. Required of all students having Civil Engineering as a major subject.

3 units, 1st semester (WING) WThF 1:30-4:30

8b. Elements of Design:—

1. *Materials.*—Structural materials, other than metals, are studied from an engineering standpoint. Wood, stone, brick, limes, cement, etc., are considered in order. (Lectures and assigned reading three hours a week first half of semester.)

2. *Foundations.*—Under this head are considered the bearing power of soils, strength of piles, distribution of pressures, and similar details connected with the design of simple foundations. (Lectures and assigned reading three hours a week, last half of semester.)

3. *Design.*—Complete designs are made, including working drawings, bill of materials, and estimate of cost, of some simple structure, such as a mill building or highway structure. (Drafting-room, nine hours a week first half of semester; six hours a week last half of semester.)

4. *Testing.*—Extending the work of course 2*b*. Each student is required to make a series of experiments, testing the physical properties of cement and other masonry materials. (Laboratory, last half of semester.)

Open to students who have completed course 8*a* in Engineering; required of all students having Civil Engineering as a major subject.

5 units, 2d semester (WING, MOSER)

Lec. MWF 8:15; Dft. and Lab. WThF 1:30-4:30

8c. Elements of Design.—Courses 8*a* and 8*b* abridged to meet the requirements of students having Mining, Mechanical, or Electrical Engineering as a major subject. Special applications are made to hoisting and conveying structures, mill buildings, and central station buildings. Open to students who have completed courses 1 and 2 in Engineering and course 9 in Mining and Metallurgy.

2 or 3 units, 2d semester (WING) By arrangement

9. Railway Bridges.—This course comprises the determination of the stresses in modern types of railroad bridges, including cantilever and swing spans, masonry arches, and arch ribs; the discussion of the most economical types, spans, and dimensions of bridges and bridge members; the study of the methods of constructing sub-aqueous foundations, shop methods, erection, inspection of material, specifications, and other factors influencing the design of bridges. Designs are made by each student to fulfill actual conditions, the parts proportioned, and bills of material prepared. Open to students who have completed course 8. (Lectures two hours per week, drafting nine hours.)

5 units, 1st semester; 5 or 2 units, 2d semester (WING)

Lec. TTh 10:15 (1st sem.), 9:15 (2d sem.); Dft. WThF 1:30-4:30.

D. HYDRAULIC ENGINEERING

12. Water-Supply Engineering for Towns and Districts.—Sources of supply. Collecting and storing of water, either for water supply of towns or for irrigation purposes. Settling, filtering, conducting, and delivering of water, including the study and design of all accessory works. (Three hours lectures and recitations, six hours drafting.) Open to students who have completed courses 2 and 3 in Engineering and 4*a* and 8*a* in Civil Engineering; required of all students who take their major in Hydraulic Engineering.

5 units, 1st semester (MARX)

Lec. MWF 10:15; Dft. MT 1:30-4:30

13. Sanitary Engineering.—Including sewerage of towns and drainage of lands. Special attention will be given to the study of all municipal sanitary problems, such as removal of sewage, destruction of garbage, construction, maintenance, sweeping, and repairs of streets and pavements. (Three hours lectures and recitations, six hours drafting.) Open to students who have completed courses 2 and 3 in Engineering and 4*a*, 8*a*, and 12 in Civil Engineering; required of all students who take their major in Hydraulic Engineering.

5 units, 2d semester (MARX) Lec. TTh 9:15; Dft. MT 1:30-4:30

15. Construction of Canals, River and Harbor Improvements.—Lectures and designing as per arrangement. Open to students who have completed courses *2a*, *2b*, and 3 in Engineering and *4a* and *8a* in Civil Engineering.

2 units, both semesters (Marx) MT 1:30-4:30

16. Technical Seminary.—Study of German and French technical journals. Open only to fourth-year students in Civil Engineering.

2 units, both semesters (Marx) By arrangement

Laboratory Fees—Courses *6b*, *6c*, *6d*, 50 cents each; *8b*, $1; *4a*, *4b*, *6a*, $2 each.

II. MECHANICAL ENGINEERING

William Frederick Durand, Guido Hugo Marx, William Rankine Eckart, Professors.

Everett Parker Lesley, Associate Professor.

†Charles Norman Cross, Lawrence Edminster Cutter, Assistant Professors.

Edward John Stanley, James Bennett Liggett, Theron James Palmateer, Robert Henry Harcourt, ‡Clarence P. Campbell, Horatio Ward Stebbins, Instructors.

The following courses constitute a five years' curriculum leading to the degree of Mechanical Engineer. Students successfully completing the first four years of this curriculum will be granted the degree of Bachelor of Arts.

[Numbers following subjects indicate number of units credit for the year.]

First Year—Applied Mathematics (10); Freehand Drawing (2); Chemistry (9); Shop Work (6); French or German (6); Mechanical Engineering *A* (2).

Second Year—Applied Mathematics (6); Mechanics (10); Linear Drawing and Descriptive Geometry (6); Physics (8); Shop Work (2)

Third Year—Applied Mechanics (5); Hydraulics and Hydraulic Motors (5); Hydraulic Laboratory (2); Machine Drawing (2 or 3); Elementary Machine Design (5); Surveying (2); Metallurgy (3); Physics (2); Electrical Engineering (3); Shop Work (3).

Fourth Year—Heat Engines (6); Engineering Reports (2); Machine Design (8); Experimental Engineering (6); Electrical Engineering (6); Shop Work (6).

†Absent on leave, 1914-15.
‡Resigned, December 1914.

FIFTH YEAR—Thermodynamics (1); Advanced Design (3 plus 3 elective); Experimental Engineering (3); Economics (2); Shop Administration (3); Power Plants (4); Pumping Machinery (2); Seminary (elective) (2); Thesis (8); Hydraulic Machinery Laboratory (2 elective).

The above represents the requirement for the student entering regularly with minimum mathematics and no advanced credit. For such student, in addition to the above curriculum, there should be a maximum possible elective among other subjects in other departments of the University of nineteen units. For students who may bring advanced credit in drawing, shop work, chemistry, and other subjects, the amount of possible elective may be considerably increased.

A. General Survey of Engineering Industries.—Special lectures and assigned topics. Required of first-year students.

1 unit each semester By arrangement

1-8. Shop Work:—

1a. Forge Practice.—(2 exercises a week, half year.)

1b. Lecture in Forge Work.

3a. Foundry Practice.—(2 exercises a week, half year.)

3b. Lecture in Foundry Work.

5. Woodworking.—(2 exercises a week, half year.)

6a. Pattern Shop Practice.—(2 exercises a week, half year.)

6b. Lecture in Pattern Shop Work.

Courses *3a* and *3b* are prerequisite to courses *6a* and *6b*.

7a. Elementary Machine Shop Practice.—(2 hours a week, half year.)

7b. Lecture in Machine Shop Work.

Courses *1a* and *1b* are prerequisite to courses *7a* and *7b*.

8. Advanced Machine Shop Practice.—(3 hours a week, half year.)

Courses 1-8 are open to all students, and required of students in Mechanical Engineering.

2 or 3 units, each semester

(LESLEY, STANLEY, LIGGETT, PALMATEER, HARCOURT)

10. Shop Administration.—A course of lectures on workshop organization and administration, factory accounting, wage systems, selection of machinery, factory methods, etc. Prerequisites: courses 1 to 7 inclusive.

3 units, 1st semester (LESLEY) MWF 9:15

11. Elementary Machine Drawing.—Practice in making freehand sketches of machine parts from which working drawings, tracings, and blueprints are developed. (Six or nine hours a week in drafting-

room.) Prerequisite: course 1*a* in Engineering, and first semester's work in Engineering 1*b* or its equivalent.

2 or 3 units, either semester (CUTTER)

(I) TTh 9:15-12:15; (II) MT 1:30-4:30

13. Elementary Machine Design.

a. Function of machines; motion, force, and work in machines; analysis of mechanisms; velocity, acceleration, and effort diagrams; parallel motions; cams; ratchets; toothed wheels; valve gear analysis and design. (Three hours a week lectures and recitations, second semester.) (3 units)

b. Drafting course applying the principles treated in *a*. (Six hours a week drafting, second semester.) (2 units)

Prerequisites: course 11 in Mechanical Engineering and course 1*b* in Engineering. Courses *a* and *b* must be taken together and are required of students in Mechanical Engineering.

5 units, 2d semester (G. H. MARX)

Lec. MWF 8:15; Drafting M or T or F 1:30-4:30

14. Machine Design.—Study of machine details, such as bolts and screws; riveted joints and boiler design; keys, fits and fitting; axles, shafts, and spindles; journals, bearings, friction, and lubrication; ball and roller bearings; sliding surfaces; couplings and clutches; gear, belt, rope, and chain transmission systems; flywheels; brakes; springs; frames and supports; cylinders, etc. (Two hours a week recitation and lectures, six hours in the drafting-room, throughout the year.) Open to students who have completed course 13 in Mechanical Engineering, and who are taking course 2 in Engineering; required of students in Mechanical Engineering.

4 units, both semesters (G. H. MARX)

(1st sem.) Lec. MW 10:15; Dft. MT 1:30-4:30

(2d sem.) Lec. TTh 8:15; Dft. MW 9:15-12:15

15. Machine Design.—An abridged treatment of the field covered in courses 13 and 14. (Three hours a week recitations and lectures, six hours a week in the drafting-room, first semester.) Open to students who have completed Engineering 1*b*, Mechanical Engineering 11, and are taking Engineering 2. Intended for Engineering students whose major subject is not Mechanical Engineering.

5 units, 1st semester (G. H. MARX)

Lec. MWF 8:15; Dft. ThF 1:30-4:30

16. Advanced Machine Design.—Design of complete machines. Students may elect machine tools, cranes, steam or gas engines, or

special problems. (One lecture and six hours drafting per week.) Intended for fifth-year students who have completed courses 14, 32, and 33.

3 units, both semesters (G. H. MARX, CUTTER)
Lec. F 10:15; Dft. 1:30-4:30, by arrangement

21-30. Experimental Engineering.

21. Calibration and Use of Engineering Apparatus and Instruments, including gas meters, thermometers, planimeters, indicators, dynamometers, fuel calorimeters, and the testing of lubricating oils. (One lecture, three hours in the laboratory, and five hours on reports, per week.) Required of fourth-year students in Mechanical Engineering.

3 units, 1st semester (ECKART, STEBBINS, CAMPBELL)
Lec. Th 10:15; Lab. 1:30-4:30 and F 9:15-12:15, by arrangement

22. Testing of Steam Engines and Boilers, including determination of engine clearance; steam calorimetry; valve setting; mechanical efficiency, economy, and thermal tests of steam engines, steam turbines, gas engines; tests for speed regulation, flue gas analysis, and the testing of boilers. (One lecture, three hours in the laboratory, and five hours on reports, per week.) Open to students who have completed courses 21 and 32. Required of fourth-year students in Mechanical Engineering.

3 units, 2d semester (ECKART, CAMPBELL, STEBBINS)
Lec. T 10:15; Lab. 1:30-4:30, by arrangement

23. Testing Power Plant Auxiliaries, including hot-air engines, injectors, heaters and economizers, blowers, turbo-compressors, condensers, refrigerating machinery, and a complete power-plant test. (One lecture, three hours laboratory, and five hours on reports per week.) Open to students who have completed courses 21 and 22. Required of fifth-year students in Mechanical Engineering.

3 units, 1st semester (ECKART, CAMPBELL, STEBBINS)
Lec. F 8:15; Lab. 1:30-4:30, by arrangement

24. An Abridged Course in Experimental Engineering, intended for Civil Engineering, Geology and Mining, and Chemical Engineering students. Includes the calibration of apparatus, testing of steam and gas engines, steam turbines, boilers, etc. (One lecture, three hours in the laboratory, and eight hours on reports, every two weeks.) Open to students who have completed course 32.

2 units, 1st semester (ECKART, CAMPBELL, STEBBINS) Lec. T 9:15

26. Testing of Hydraulic Machinery.—Including tangential water wheels, turbines, rams, centrifugal, rotary, jet, and steam pumps, and

the investigation of surges in pipe lines, etc. (One lecture, three laboratory hours, and eight hours on computations, reports, etc., every two weeks.) Open to students who have taken Engineering *3b* and Mechanical Engineering 21, 22, or 24.

2 units, 2d semester (ECKART, STEBBINS)

Lec. Th 8:15 (alternate weeks); Lab. 1:30-4:30, by arrangement

30. An Advanced Course in the Investigation of Engineering Problems. Open to all students who have completed courses 21, 22, and 23.

1 to 5 units, both semesters (ECKART)

31. Engineering Reports and Specifications.—Practice writing, with occasional lectures. Required of fourth-year students in Mechanical Engineering.

1 unit, each semester, as assigned

32. Heat Engines.—Mechanical theory of heat and its applications. (Two lectures and three hours' office work per week.) Required of fourth-year students in Mechanical Engineering.

3 units, 1st semester (DURAND) TTh 9:15-12:15

33. Heat Engines.—Continuation and application of course 31. (Two lectures and three hours' office work per week.) Required of fourth-year students in Mechanical Engineering. Lecture and office work as for 31.

3 units, 2d semester (DURAND) TTh 9:15-12:15

34. Thermodynamics.—A course in theoretical thermodynamics, with special reference to heat engines, and intended to supplement course 32, which is a prerequisite. Required of fifth-year students in Mechanical Engineering.

1 unit, 2d semester (DURAND) M 8:15

35. The Mechanical Engineering of Central Power Stations.—Lectures. Prerequisite, course 31.

2 units, 1st semester (DURAND) MW 10:15

35b. Hydraulic Power Stations.—A discussion of the principles which enter into the design of hydraulic power stations: general control of water in tunnels and penstocks, surge chamber control of surges and shocks, valves and regulating devices, penstocks and their installation, selection of units, characteristics of impulse and reaction types, speed regulation, installation tests, and special problems. Open to students who have completed Engineering *3a*.

2 units, 1st semester (DURAND) MW 8:15

36. Pumping Machinery.—A lecture course for fifth-year students. Prerequisite: course 31, first semester.

2 units, 2d semester (DURAND) TTh 10:15

37. Seminary.—A weekly conference for the discussion of current engineering literature and of special topics. Open to senior and advanced students only.

1 unit, both semesters (DURAND) By arrangement

LABORATORY FEES.—Courses 1*a*, 3*a*, 7*a*, $4 per credit hour; courses 5, 6*a*, $3 per credit hour; course 8, $2 per credit hour; courses 21, 22, 23, $6; courses 24, 26, 30, $2 per credit hour; 32, $1; 35, 50 cents.

III. ELECTRICAL ENGINEERING

HARRIS JOSEPH RYAN, Professor.
JAMES CAMERON CLARK, Assistant Professor.
AXEL NIELSEN, Instructor.
GEORGE LOVELL BEAVER, RICHARD DACHNER, HARRY FRED EVANS, HOWARD WESLEY LEWIS, FRED S. MULOCK, CARL EUGENE SCHOLZ, BERNDT ALEXIS WIDELL, Undergraduate Assistants.

A five-year curriculum is arranged for students who will be graduated with the degree of Engineer in Electrical Engineering. The courses taken up during the first four years are identical in Mechanical and Electrical Engineering; both classes are registered in the Mechanical Engineering department. Students successfully completing this portion of the curriculum will be graduated with the degree of Bachelor of Arts. While pursuing courses scheduled for the fifth year of the Electrical Engineering curriculum students are registered as majors in the Electrical Engineering Department.

FIRST, SECOND, THIRD and FOURTH YEAR courses are identical with corresponding Mechanical Engineering courses.

FIFTH YEAR—Differential Equations, Hyperbolic Functions and Determinants (Applied Mathematics, 5 units); Electrical Engineering Technology (Electrical Engineering 4*a*, lectures, 5 units, and 4*b*, laboratory, 8 units): Photometry and Illumination (Physics 9*a*, 1 unit); Alternating and Transient Current Phenomena (Electrical Engineering, 5 units); Electrophysics: Foundation of Electrotechnics (Physics, 4 units); Thesis (Electrical Engineering *T*, 6 units); Seminary (Electrical Engineering *S*, 2 units). Total, 36 units.

1. **Electricity in Engineering.**—An abridged course in the industrial applications of electricity, intended for non-electrical engineering students. Prerequisites: first five semesters of any of the Stanford Engineering curricula.

4 units, 2d semester (CLARK, NIELSEN)
Lec. WF 9:15; Lab. by arrangement

2. **Electrical Energy.**—Required of third-year students in Mechanical and Electrical Engineering. Class and laboratory instruction in the technology of magnetic, electric, and electrostatic phenomena, electrical machinery and auxiliaries in continuous and alternating current working. Prerequisites: Applied Mathematics 1, 2, 3; Engineering 1*a*, 1*b*, 2*a*, 2*b*; Mechanical Engineering 11, 13*a*, 13*b*; Physics 6*a*, 6*b*, 9.

2*a*. *Recitations.*

1 unit, 2d semester (NIELSEN) Th 8:15-10:15

2*b*. *Laboratory Work.*

2 units, 2d semester (CLARK, NIELSEN) MTWTh 1:30-4:30

[Course 2 is supplemented by Physics 9, laboratory work in electrical measurements, 2 units, 1st semester.]

3. **Electrical Engineering.**—Required of fourth-year students in Mechanical Engineering and Electrical Engineering. Lectures, laboratory, and class work. Prerequisites: Electrical Engineering 2*a*, 2*b*; Engineering 3*a*.

3*a*. *Lectures.*—General Practice. (1) Standardization authorized by the A. I. E. E. (2) Fire Hazard, National Electric Code. (3) Transmission Economies. (4) Standard Machinery, Auxiliaries and Structural Supplies. (5) Municipal Distribution of Electricity for Miscellaneous Service. (6) Long Distance Transmission of Power for General Purposes. (7) Discussion of Typical Installations. (8) Elements of Finance Controlling the Uses of Electricity. (9) Survey of Electrical Industries. (10) Historical and Biographical Sketches.

4 units, 1st semester (RYAN) MTWTh 8:15

3*b*. *Laboratory Work.*—Characteristic performance of standard machinery and auxiliary apparatus; tests of machinery and auxiliaries for capacity, and acceptance.

2 units, 2d semester (CLARK, NIELSEN) By arrangement

4a. **Electrical Engineering Technology.**—Lecture course. Theory of characteristic performance of machinery, transformers, transmission lines, distributing systems and auxiliaries.

5 units, 2d semester (RYAN)

4b. Electrical Engineering Technology.—Laboratory course. Material tests; machinery and auxiliaries design data tests; low and high frequency high voltage phenomena and insulator tests; special meter performance tests and calibrations.

8 units, 1st semester (RYAN, CLARK, NIELSEN)

5. Alternating and Transient Current Phenomena.—Steinmetz and Kennelley methods, including application of hyperbolic functions and determinants to the characteristic performance of transmission lines. Lectures and recitations.

5 units, 2d semester (NIELSEN)

10. Graduate Work.—Advanced study and investigation as assigned to meet the needs of the individual.

S. Seminary.—A weekly conference for the discussion of current electrical engineering literature and of special topics.

1 unit, both semesters (RYAN)

T. Thesis.—Subjects as approved to suit the needs of the individual.

1 unit, 1st semester; 5 units, 2d semester (RYAN, CLARK, NIELSEN)

The Stanford Branch of the American Institute of Electrical Engineers is an organization authorized by the Institute and maintained by the members of the graduating class for the discussion of the Proceedings of the Institute, and of other topics as assigned, and the review of current electrical literature.

LABORATORY FEES—$2 per unit of university credit.

SYLLABUS FEES—Applicable to syllabus, lantern slides, and charts, $1 per course-section.

MEDICINE

RAY LYMAN WILBUR, Dean.
GEORGE BURBANK SOMERS, Secretary of the Medical Faculty.

BUILDINGS AND EQUIPMENT

The buildings in San Francisco occupy four fifty-vara lots bounded by Clay, Sacramento, and Webster streets, and consist of the Clinical and Laboratory Building, including Lane Hall; Lane Hospital, a modern building in brick and stone, with a capacity of one hundred and eighty beds; the Nurses' Home; and the Lane Medical Library.

The Clinical and Laboratory Building has recently been remodeled and is devoted entirely to outpatient clinics and laboratories.

The laboratories of Anatomy, Bacteriology and Immunity, Chemistry, and Physiology are located on the Campus at Stanford University.

Clinical Opportunities

LANE HOSPITAL

The University Hospital was designed as a teaching Hospital and built by Dr. Levi Cooper Lane. It is under the immediate control of the Clinical Committee appointed from the Medical Faculty by the President of the University with the approval of the Board of Trustees. It is a general hospital receiving both private and clinic patients, situated at Clay and Webster Streets and directly connected with the Clinical and Laboratory Building. In its clinical department there are over one hundred beds used for purposes of teaching. These are arranged into five wards, one each for Surgery, Medicine, Gynecology, Obstetrics, and Pediatrics. As the patients in these clinical beds are sent in largely from the Outpatient clinic and as they remain in the Hospital for short periods of time only, unusual opportunity is offered for the study of selected cases. Plans have been completed for the construction of a new surgical pavilion to accommodate one hundred and eighty patients as an addition to the present hospital. A large central laundry has recently been constructed.

Arrangements have been made with the San Francisco Society for the Study and Prevention of Tuberculosis so that the routine care of patients suffering from tuberculosis is carried out through the branch of the Medical Clinic maintained under the auspices of this organization at 1547 Jackson Street. Here students may have the opportunity of observing patients in the same manner as in the clinics held in the University buildings.

The San Francisco Maternity contributes a considerable sum to the support of both the out- and in-patient obstetrics, and it, together with the Fruit and Flower Mission, assists greatly in the care of maternity cases. The Associated Charities sends to the clinic a portion of its maternity cases, and provision is also made for the care of a portion of their sick poor.

SAN FRANCISCO HOSPITAL

At the present time the Medical School controls over one hundred beds in the City and County Hospital in San Francisco, averaging about a thousand patients per year. The hospital facilities will be greatly improved with the occupation of the new San Francisco Hospital, which

the City has erected at an expense of two million dollars. With separate buildings for the care of contagious diseases and tuberculosis, in addition to the main group for general surgical and medical cases, there will be centered within the hospital grounds, convenient for teaching purposes, an abundance as well as a great variety of clinical material.

OUTPATIENT DEPARTMENT

The lower floor of the Clinical and Laboratory Building is devoted entirely to the Surgical Outpatient Clinic and its various subdivisions; the second floor to the Medical Outpatient Clinic with its subdivisions; the three upper floors contain the Pathological Museum and the laboratories of Experimental Medicine, Pathology, Pharmacology, and Experimental Surgery. The laboratory of Clinical Pathology and the Medical Outpatient Department are separated only by a short corridor from the clinical wards of the Hospital, so that both In- and Outpatients are equally available for teaching purposes. The front part of Lane Hall has been converted into a modern amphitheatre suitable for demonstrations. About twelve thousand new patients were received during the past year, with a total number of visits of over eighty-five thousand.

Hospital Interneships

Ten internes are appointed annually at the Lane Hospital. Four of these are Senior Internes and have a continuous service for one year with the option of renewal in any of the following divisions: Medicine, Pediatrics, Surgery, or Obstetrics and Gynecology. Six Junior Internes, with an alternating service, are likewise appointed. They are assigned in rotation to a two months' service in Psychiatry at the Napa State Hospital. Four of these are eligible for Senior Interneships later. A Senior Externe is also appointed for the Eye, Ear, Nose, and Throat Department. Interneships are also available in the Stanford service at the San Francisco Hospital and at other hospitals in the City and the State.

Organization

The School of Medicine is an integral part of the University, controlled by the Board of Trustees, the President, and the Academic Council in the same manner as are other departments of the University.

The teaching body of the Medical School consists of: (*a*) The members of the Medical School Faculty, which is composed of all Professors, Clinical Professors, Associate Professors, and Associate Clinical Professors giving instruction in the courses included in the

Medical curriculum or in graduate courses in Medicine either at Stanford University or in San Francisco; (*b*) Assistant Professors and Assistant Clinical Professors; (*c*) Lecturers, Instructors, Clinical Instructors, and Assistants.

'Professors' and 'Associate Professors' are members of the Medical Faculty who are under full salary and who give the main part of their time to the work of instruction. 'Clinical Professors' and 'Associate Clinical Professors' are of equal rank with Professors and Associate Professors respectively, but are engaged in practice.

The functions of the Medical Faculty and of the Executive Head are defined under the organization of the Faculty of the University for Department Faculties and Executive Heads.

For purposes of administration the work of the Medical School is organized into Divisions as follows: Anatomy; Bacteriology and Immunity; Physiology; Chemistry; Pharmacology; Pathology; Medicine, including Pediatrics, Neurology, Psychiatry, Electrotherapy, Actinography, Dermatology and Syphilis, Jurisprudence, Dietetics, and Tropical Medicine; Surgery, including Ophthalmology, Otology, Laryngology, Rhinology, Orthopedics, Genito-Urinary Surgery; Obstetrics and Gynecology; Hygiene and Public Health. The Executive of each Division, appointed annually by the President of the University, is the administrative officer of the Division, with duties, with respect to the Division, similar to those prescribed for Executive Heads of Departments.

The Division Faculties consist of all members of the teaching staff of the several Divisions, but only Professors, Clinical Professors, Associate Professors, and Associate Clinical Professors have the right to vote.

Library Facilities

The Lane Medical Library, founded by the Directors of Cooper Medical College, as provided by the will of Mrs. Levi Cooper Lane, comprises nearly 40,000 volumes. The most valuable historical portion was obtained from the New York Hospital, the oldest medical library in the country. About 450 periodicals are currently received, and the numerous files of bound volumes are practically complete.

The full privileges of the Library, including the withdrawal of books, can be obtained through a life membership of one hundred dollars or a yearly membership of five dollars. The consultation and use of books in the Library is free.

The Lane Medical Library Building, erected in 1912, on the southeast corner of Sacramento and Webster streets, is a well-equipped

fireproof structure of Colusa sandstone, three and a half stories high, with shelving for 60,000 volumes and space to accommodate twice that number. The reading room accommodates seventy readers, and the stacks and study rooms are provided with small tables for individual use. The west portion of the mezzanine floor is devoted to the Barkan collection on Ophthalmology. The third floor at present contains the Sutro Library belonging to the State of California. The attic houses the duplicate collection of about 15,000 volumes, which is much used for out-of-town loans. The large reading room is decorated by three allegorical paintings by Mathews, presented by Mrs. Henrietta Zeile.

The Lane Medical Lectures

The Lane Medical Lectures, founded in 1896 by Dr. Levi Cooper Lane, are given biennially on medical subjects, and are open to medical students and to physicians. The 1913 course of lectures was given in September, on "Internal Secretion," by Sir Edward Albert Schaefer, of the University of Edinburgh.

Popular Medical Lectures

A series of free public lectures on medical and allied subjects is given each year in Lane Hall. (The subjects presented in 1914-15 are listed *infra* under Lectures, Recitals, etc.)

Cooper Clinical Society

The meetings of the Cooper Clinical Society, which are open to students, are held monthly during the school year in the buildings of the Medical School.

Social Service

The Auxiliary to the Stanford Clinics is an organization for the support of the social service work of the clinics of the Stanford University Medical School, for the collection of funds for the benefit of sick and needy patients, and for the establishment of a Stanford settlement in San Francisco. It is made up of Stanford alumni, students, and friends of the University. The Auxiliary has also a large advisory board to assist in the purposes of the organization. A Social Service Worker has been appointed to work in the clinics in conjunction with all of the existing agencies in San Francisco for the relief of the sick, especially the Associated Charities.

Regular membership is $5 per year, sustaining membership $25 per year, life membership $100.

Admission to the School of Medicine

Three years of collegiate work in Stanford University (approximately ninety unit hours), or its equivalent as accepted by the Committee on Advanced Standing, is required for admission to the School of Medicine. This preparatory training must include one year of Physics, Chemistry including Qualitative Analysis,* and Physiology or Biology, with laboratory work in each, and such a reading knowledge of French or German as shall be acceptable to the School of Medicine. It is recommended that a lecture and laboratory course be taken in Psychology.

Candidates for admission to the School of Medicine, or for advanced standing in the School, are permitted to register with one condition, but the condition must be removed within one year to the satisfaction of the head of the School or Division in which the condition was incurred.

The State Law governing the practice of Medicine in California prescribes that every person before practicing Medicine or Surgery must produce satisfactory testimonials of good moral character and a diploma issued by some legally chartered medical school approved by the Board of Medical Examiners, the requirements of which school shall have been at the time of granting such diploma in no degree less than those prescribed by the law. The main provisions of this law are that the applicants must show records of four medical courses of thirty-two weeks' duration, following a preliminary preparation, at present of a high school course or specified equivalent and after January 1, 1919, in addition, a course which includes at least one year of work of college grade in each of the subjects of Physics, Chemistry, and Biology. The specified four years' medical course includes 4800 schedule hours, embracing the usual medical curriculum. In the course of study outlined the hours required are actual work in the class room, laboratory, or hospital, and at least eighty per cent of actual attendance is required.†

Students in any Department of the University who desire to enter upon the study of Medicine and who have included in their course of

*Students other than Chemistry majors preparing for medicine at Stanford University are recommended to take the combined course in quantitative and qualitative analysis (course *k* in Chemistry) instead of the full courses in these subjects (*b* and *d*).

†Candidates for licensure possessing a baccalaureate degree are not required to present certificates for Latin by the Board of Medical Examiners of the State of California at present.

study the subjects required for admission to the Medical School, may, at the beginning of their fourth or senior year in the University, enroll as students in medicine and continue as candidates for the degree of Bachelor of Arts.

A student who, through delay in making a choice of Medicine, is unable to complete the requirements of his Major department and the first year in Medicine by the end of his senior year, may nevertheless register in Medicine and be eligible for the degree of A. B. in the Department of Physiology and Histology at the end of the eighth semester—the second semester in Medicine.

Students who have included in their course of study the subjects required for admission to the Medical School while retaining their registration in their Major Department as candidates for the degree of A. B., must also enroll in the School of Medicine during the fourth year and pay the fees of the School in order that this year may count as part of the four years' registration in Medicine as required by the law of the State and the five years required by the regulations of the University. Tuition fees are required for but four years of the medical course.

The Eight Years' Curriculum

The combined eight years' curriculum—three years of college work and five years in medicine—lead to the degrees of Bachelor of Arts and Doctor of Medicine.

Special Workers

Physicians and others who are properly qualified, but not candidates for a degree, may be admitted to work in the School of Medicine with the permission of the Dean of the School and of the professor or professors concerned. Such persons shall be listed as Special Workers and pay such fees as are required by the Dean and the Executive Head of the Division concerned.

The Curriculum in Medicine

The required period of study for the degree of Doctor of Medicine is five years (ten semesters). The work of the first three semesters is given at Stanford University and is devoted to anatomy, bacteriology, chemistry, embryology, histology, neurology, and physiology. The next five semesters are devoted to work in the pharmacological, pathological, and clinical laboratories and in the hospital wards and the outpatient department in San Francisco. The last year is spent in hospital work.

In order to correlate the work of some of the Divisions and to facilitate research in others, all courses in Medicine, except those in anatomy, bacteriology, chemistry, and physiology, are given in San Francisco. By reducing the number of required hours to approximately the number decided upon by the Association of American Medical Colleges, the student's opportunity for taking optional and elective courses has been increased and time obtained for thesis work.

Required Interne Year

All students are required to take a fifth practical year in Medicine before receiving the degree of Doctor of Medicine. Arrangements may be made so that the fifth year may be spent as worker in a laboratory. No tuition fee is required of internes and most interneships include a small salary.

Fees

The tuition fees of the Medical Department are $150 per annum for four years, payable in installments of $75 each semester; $5 per semester for the first three semesters, covering charges for material; and such other deposits to cover breakage or loss of apparatus and materials, as may be required in any department or division, these deposits being returnable, less charges for breakage, loss, or wear and tear of apparatus, or for materials used. The total deposits for this purpose may vary from $10 to $20 per annum.

Microscopes

By action of the Medical Faculty taken May 12, 1912, students will be expected to supply themselves with microscopes. The Faculty offer to those students who do not possess instruments of their own the use of a microscope for one college year, not including the summer vacation, on deposit of $10 and a rental of three dollars per semester, this deposit, less the cost of necessary repairs, to be refunded on return of the microscope. In the laboratories of physiology and histology and in embryology microscopes are furnished free.

Requirements for the Degree of Doctor of Medicine

The candidate for the degree of Doctor of Medicine must, according to the laws of the State, have attained the age of twenty-one years, and have attended a medical college of recognized standing for four years. He must further have fulfilled the entrance requirements of the Medical School of Stanford University before enrolling as a medical student, have satisfactorily completed the required curriculum, passed all examinations, paid in full the required fees, and have spent the last

two of the five years in Medicine at the University. Physicians who have already received the degree of Doctor of Medicine are not received as candidates for this degree by the Stanford Medical School.

Regulations Concerning Theses

A Thesis based as much as feasible upon research work will be required of each student. If the thesis is not completed previously, four curriculum hours of the seventh and eighth semesters are to be devoted to its preparation under the supervision of one of the Divisions.

Students of Medicine may select the Division in which they desire to write their Thesis, and if properly qualified may begin work on the same at any time before the beginning of the second semester of their fourth year in Medicine. The topic for investigation or the subject matter for study shall be chosen with the advice and consent of the Executive Head of the Division concerned, and no change of subject shall be made without the consent of the Executive under whose direction the work was begun. Except by special permission theses must be completed by the end of the fourth year in medicine.

Advanced Degrees in the Medical School

The Divisions of the Medical School are considered as equivalent to other departments of the University in respect to candidacy and requirements for the degrees of Master of Arts and Doctor of Philosophy, and all the University regulations apply to these divisions and division faculties as to departments and department faculties, with the following modifications and limitations:

1. Candidates for these degrees must have received the degree of A. B. at Stanford or an equivalent degree elsewhere, and must have completed all requirements for admission to the School of Medicine, and such other requirements as each division faculty may prescribe.

2. Time spent in candidacy for the degree of Master of Arts or Doctor of Philosophy will not be counted toward the degree of Doctor of Medicine.

3. Candidates for these degrees in the divisions of Medicine, Surgery, and Obstetrics and Gynecology, must have received the degree of Doctor of Medicine.

GRADUATE MEDICAL COURSES

The first graduate course offered by the Stanford Medical School was held from July 6 to August 15, 1914, with a registration of seventeen physicians.

Medical Group

1. Clinical Medicine.

Daily clinics and demonstrations covering the various methods of diagnosis and treatment. Special attention devoted to the following: Gastro-intestinal Diseases (Cheney, Boardman); Diabetes and Gout (Addis); Tuberculosis (Clark); Cardio-Renal Diseases (Dickson, Tupper, Langstroth); Infectious Diseases (O'Neill). For this work the material of the outpatient department of the University, the hospital wards at Lane Hospital, the Stanford wards at the City and County Hospital, the Tuberculosis Clinic and Tuberculosis Hospital, and the Isolation Hospital is available. Fee, $50.

(Cheney, Addis, Dickson, Boardman, Clark, O'Neill, Tupper, Langstroth)

2. Clinical Bacteriology.

Class limited to six members. Bacteriological methods of diagnosis, including blood culture, technic, etc. Laboratory open daily, with talks, demonstrations, and special instruction on designated days. Fee, $35.

(Dickson)

3. Clinical Pathology.

Class limited to ten. Talks on the various methods and their application and interpretation in Clinical Pathology, with practical laboratory work with these methods. Laboratory open daily for work. Fee, $35.

(Addis)

4. Advanced Clinical Pathology.

Class limited to six. The newer methods of exact clinical analysis. Laboratory open daily for work. Fee, $35.

(Mead)

5. Special work on Diabetes and Gout.

Laboratory open every afternoon. Class limited to six. Theoretical consideration of Diabetes and Gout, laboratory work in methods of estimating Nitrogen, Ammonia, Sugar, Acidosis, etc., and methods of computing diets, together with clinical studies on ward patients. Fee, $25.

(Addis)

6. Actinography.

Class limited to six. The field of X-Ray diagnosis and treatment, special attention being given to the study of gastro-intestinal diseases, with practical work in fluoroscopy, radiography, and radiotherapy. Laboratory open every morning from 11 to 12 o'clock for the routine work. Fee, $35.

(Boardman)

7. Clinical Neurology.
Class limited to ten. Clinical studies and demonstrations of neurological material. Tuesdays and Thursdays, in the Neurological clinic in the Medical School Building. Saturdays, on the neurological material in the Stanford service at the City and County Hospital. Fee, $25.
(Schaller, Wolfsohn)

8. Dermatology and Syphilis.
Class limited to six. Clinical studies and demonstrations of dermatological cases, especial attention being given to syphilis and the various methods of treatment, to the histopathology of skin disease and vaccine therapy. Fee, $35.
(Alderson)

9. Pediatrics.
Class limited to ten. Clinical studies and demonstrations, together with instruction in infant feeding. Fee, $25.
(Yerington, Huffaker)

Surgical Group

10. Clinical Surgery.
Class limited to ten. Clinical studies and demonstrations of surgical cases, in the outpatient department and wards at Lane Hospital by Dr. Cowan, and in the Stanford wards at the City and County Hospital by Dr. Eloesser. Operative demonstrations by Dr. Eloesser at the City and County Hospital, and the operating room open for members of the class at Lane Hospital clinic on operating days. Fee, $25.
(Cowan, Eloesser)

11. Operative Surgery on the Cadaver.
Important amputations, ligations of the principal arteries, and general operative surgery on the cadaver. Fee, $30.
(Eaves)

12. Blood Vessel Surgery.
Six lectures, with demonstrations of blood vessel surgery. Fee, $10.
(Rothganger)

13. Orthopedics.
Class limited to ten. Clinical studies and demonstrations of orthopedic material, diseases of bones and joints, together with pathological demonstrations and operative clinics. Fee, $35.
(Ely)

14. Clinical Ophthalmology.
Class limited to six. Clinical studies and demonstrations of ophthal-

mological material, with treatment, and lantern-slide demonstrations of the pathological anatomy of the cases under discussion. Fee, $35.
(BARKAN)

15. Operative Ophthalmology.
Class limited to six. Two weeks of anatomical dissections of the orbit, and four weeks of operative work on heads and on pigs' eyes. Fee, $50.
(BARKAN)

16. Otology and Laryngology.
Class limited to six. General clinical studies and demonstrations of routine cases, with special consideration of the physiology and pathology of the middle ear and labyrinth by Dr. LANDO, and the surgical anatomy of the nose and throat with specimens and operative demonstrations by Dr. MCNAUGHT. Fee, $35.
(LANDO, MCNAUGHT)

17. Genito-Urinary Surgery.
Class limited to ten. Routine clinical studies and demonstrations of cases, with operative clinics. Fee, $35.
(RIGDON, GEDNEY, WOOLSEY)

OBSTETRICS AND GYNECOLOGY

18. Obstetrics.
Two weeks, daily service. Class limited to six. Twelve talks on the theory and practice of obstetrics, with manikin demonstrations; together with two weeks' active clinical service in outpatient and hospital obstetrics, with daily talks and instruction. Fee, $35.
(MOORE)

19. Gynecology.
Class limited to six. Practical instruction in gynecological diagnosis, clinical studies and demonstrations of cases, medical treatment and operative demonstrations. Fee, $35.
(TOPPING)

20. Gynecological Pathology.
Class limited to six. The study of gross and microscopical specimens of gynecological material. Fee, $35.
(GIBBONS)

21. Cystoscopy.
Class limited to six. Demonstrations and practical instruction in cystoscopy, internal catheterization, and methods of estimating renal function. Nine periods from July 6 to August 1. Fee, $35.
(BEASLEY)

22. Pathology. PATHOLOGY

Demonstrations of specimens in selected subjects, with discussions and clinical autopsies. Fee, $25.

(MAJOR)

THE CURRICULUM

FIRST SEMESTER	Lec. hours	Lab. hours	Units of credit
Neurology—Gross and Minute Anatomy of the Brain and Spinal Cord	1	5	3
Histology	1	5	3
Gross Anatomy	1	9	4–5
Physiology—Muscle and digestion	2	5	4
Embryology		6	2
	5	30	16–17
SECOND SEMESTER			
Histology	1	5	3
Gross Anatomy	2	8	4–5
Physiology—Blood and circulation, respiration, nutrition, metabolism, nervous system, sense organs	2	10	6
Organic Chemistry	3		3
	8	23	16–17
THIRD SEMESTER (First Semester of Second Year)			
Bacteriology	2	7	5
Gross Anatomy	2	9	5
Physiological Chemistry	3	9	6
	7	25	16

FOURTH SEMESTER (Second Semester of Second Year)

	Hours per week
Medicine	7
Clinical Pathology	3
Physical Therapeutics	2
Pharmacology and Materia Medica	6
Surgery	6½
Pathology	9½

FIFTH SEMESTER (First Semester of Third Year)

Medicine	9
Clinical Pathology and Experimental Medicine	2½
Neurology	1
Pediatrics	2
Pharmacology and Materia Medica	3
Surgery	8
Surgical Pathology	2
Obstetrics	3
Pathology	4
	34½

SIXTH SEMESTER (Second Semester of Third Year)

Medicine	5
Clinical Pathology and Experimental Medicine	2½
Neurology	2
Pediatrics	5
Surgery	6
Surgical Pathology	2
Obstetrics and Gynecology	3
Pathology	4
	29½

SEVENTH SEMESTER (First Semester of Fourth Year)

Medicine	5
Pediatrics	2
Dermatology	1½
Legal Medicine	1
X-Ray	1
Psychiatry	1
Surgery	3
Orthopedic Surgery	2
Genito-Urinary Surgery	3
Eye, Ear, Nose, and Throat	4
Obstetrics	2
Gynecology	3
Hygiene	1
Thesis	4
	33½

Eighth Semester (Second Semester of Fourth Year)

Medicine	6
Neurology	2
Dermatology	1½
History of Medicine	1
Dietetics	1
Surgery	4
Eye, Ear, Nose, and Throat	4
Obstetrics	2
Gynecology	3
Hygiene	1
Thesis	4
	29½

Ninth and Tenth Semesters—Hospital Year

Clinical Examinations in Medicine, Surgery and Obstetrics.

I. DIVISION OF ANATOMY

Arthur William Meyer, Professor.
Edgar Davidson Congdon, Assistant Professor.
Ernest Risling, Technical Assistant.

[The courses of study are as outlilned under Anatomy, pp. 180-181.]

II. DIVISION OF BACTERIOLOGY AND IMMUNITY

Wilfred Hamilton Manwaring, Professor.
Harry Johnson Sears, Instructor.
Marcus Claude Terry, Assistant in Protozoology.
Harry Carson Coe, Russell Van Arsdale Lee, William Homer Moore, Assistants.

[The courses of study are as outlined under Bacteriology and Immunity, pp. 182-183.]

III. DIVISION OF CHEMISTRY

John Maxson Stillman, Robert Eckles Swain, Professors.
Edward Reginald Harding, Assistant.

1. Organic Chemistry.—A lecture course embracing a study of the classification, structural formulae, and properties of the more important compounds of carbon. The chemical relationships of the larger groups of organic compounds, alcohols, aldehydes, and ketones, acids,

amines, and the halogen, sulphur, and nitrogen compounds will be emphasized, special attention being given throughout the course to those compounds which are of physiological and pathological interest. [A condensation of course 3 in the Department of Chemistry.]

3 afternoons, 2d semester (SWAIN)

2. Toxicology.—A laboratory course, accompanied by informal lectures, dealing with the more important poisons, their physiological action and the prominent reactions employed in their identification. A search for the common poisons, based on a systematic scheme of analysis, will be made on artificially prepared materials. Students who have had no previous training in quantitative analysis will be given a preliminary course in volumetric and gravimetric analysis. Optional.

3 afternoons, 2d semester (SWAIN)

3. Physiological Chemistry.—A laboratory course including a preliminary study of the proteins, carbohydrates, and fats, and the action of the various digestive fluids upon them, followed by a chemical examination of the bile, blood, milk, the chief tissues of the animal body, and the excretions. This course should be preceded by the equivalent of Chemistry courses 1, *a*, and *k*.

3 afternoons, 3d semester (SWAIN)

4. Physiological Chemistry.—Lectures on the chemical composition and action of the tissues and secretions of the animal body, the digestion of foods, and the elimination of waste products. [Course 11 in the Department of Chemistry.

3 units, 3d semester (SWAIN)

[Students enrolled as Medical students will be required to deposit $10 breakage fee for the laboratory courses in Toxicology and Physiological Chemistry. Other University students will pay the usual fee of $25.]

IV. DIVISION OF HYGIENE AND PUBLIC HEALTH

†WILLIAM FREEMAN SNOW, Clinical Professor.
RICHARD G. BRODRICK, Assistant Clinical Professor.
WILFRED H. KELLOGG, Clinical Instructor.

1. Hygiene.—This course is divided as follows:

(*a*) Required reading, covering the usual information essential to an understanding of the principles of public health and hygiene;

†Absent on leave, 1914-15.

(*b*) Lectures on organized public health work, covering the administration of federal, state, and local health departments (1st semester);

(*c*) Lectures on Medical Sociology, covering the activities of various types of welfare organizations (2d semester).

The practicing physician's duties and opportunities in the field of preventive medicine are emphasized and illustrated by field trips to quarantine stations and health departments.

1 hour, 7th and 8th semesters (BRODRICK, KELLOGG)

2. Public Health.—Research work for graduates, or for students registered as candidates for advanced degrees in the Medical Department, may be arranged in connection with investigations of the State Board of Health and the San Francisco Health Department. (BRODRICK, KELLOGG)

V. DIVISION OF MEDICINE

RAY LYMAN WILBUR (executive), JOSEPH OAKLAND HIRSCHFELDER (emeritus), Professors.

WILLIAM FITCH CHENEY, †LANGLEY PORTER, ARTHUR WILLIAM HOISHOLT, Clinical Professors.

THOMAS ADDIS, Associate Professor.

HARRY EVERETT ALDERSON, HAROLD PHILLIPS HILL, Associate Clinical Professors.

ERNEST CHARLES DICKSON, WALTER WHITNEY BOARDMAN, Assistant Professors.

WALTER FRANK SCHALLER, HENRY HERBERT YERINGTON, Assistant Clinical Professors.

MORTON RAYMOND GIBBONS, WILLIAM REDWOOD PRICE CLARK, FLORENCE MABEL HOLSCLAW, ARTHUR ALOYSIUS O'NEILL, JULIAN MAST WOLFSOHN, Clinical Instructors.

HARRY R. OLIVER, Serologist, Lane Hospital.

WILLIAM WALLACE BEHLOW, MILLICENT COSGRAVE, JAMES ROOT DILLON, GEORGE JOYCE HALL, MAUDE NOBLE HAVEN, ANTHONY HUFFAKER, THOMAS GEORGE INMAN, WILLIAM KENNEY, GEORGE DUNLAP LYMAN, ANNA G. MCBEAN, LEWIS DURANT MEAD, CHESTER DURBIN SEWALL, ROLAND BEATTY TUPPER, Assistants.

†Absent on leave, 1914-15.

SUBDIVISONS

PEDIATRICS	JURISPRUDENCE	ACTINOGRAPHY
NEUROLOGY	DERMATOLOGY AND SYPHILIS	TROPICAL MEDICINE
PSYCHIATRY	ELECTROTHERAPY	DIETETICS

The instruction in Medicine begins in San Francisco in the fourth semester, with practical work in Physical Diagnosis, with lectures and demonstrations in Physical Therapeutics, and with recitations in Medicine and laboratory work in Clinical Pathology. In the fifth and sixth semesters the general field of Medicine is covered by means of clinics, practical demonstrations, bedside instruction and clinical laboratory work. As far as feasible theoretical and didactic teaching is made secondary to demonstrations and individual work on the part of students. Four hours of the required work in Medicine may be taken in bedside instruction or in advanced work in the subdivisions of Neurology, Dermatology and Syphilis, or Pediatrics. During either the seventh or eighth semesters the student will, in the mornings, attend the clinics at the San Francisco Hospital. Therapeutics will be taught in immediate connection with Medicine.

1. **Physical Diagnosis and Introduction to Medicine.**—This course lays the foundation for the work in Medicine, and consists largely of practical instruction in the methods of physical diagnosis and in history taking, and in work upon the principles of medicine.

7 hours, 4th semester (WILBUR, ADDIS, BOARDMAN, DICKSON)

2. **Clinical Pathology.**—A laboratory period of three hours per week, with some lectures, in microscopical and clinical diagnosis, including the methods of examining blood, urine, sputum, gastric contents, feces, etc.

3 hours, 4th semester (ADDIS)

3. **Physical Therapeutics.**—In this course is given a practical discussion, with demonstrations, of various methods aside from drugs, for the treatment of disease, with particular reference to the physiological problems involved. Hydrotherapy, Balneotherapy, Climatology, Electrotherapy, Bier's Hyperaemia, Gymnastics, and Massage are considered. The technique of venesection, hypodermoclysis, transfusion, etc., is demonstrated.

2 hours, 4th semester (WILBUR, ADDIS, BOARDMAN, DICKSON)

4. **Experimental Medicine and Clinical Pathology.**—Throughout a year the third-year class spends two and a half hours per week in

laboratory work in Experimental Medicine with demonstrations of pathological physiology, and in advanced Clinical Pathology.

2½ hours, 5th and 6th semesters

(Addis, Wilbur, Boardman, Dickson)

5. Medicine: Section Work and Clinics.—Four mornings per week two hours are spent by students in the outpatient department or wards in practical medical work and in attending clinics and recitations.

8 hours, 5th semester

(Wilbur, Cheney, Addis, Boardman, Dickson)

6. Medicine: Clinics.—Four hours per week of bedside instruction in the wards of Lane Hospital.

4 hours, 6th semester (Wilbur, Cheney, Addis, Boardman)

7. Medicine: Set Clinic.—Once a week a set clinic for the third- and fourth-year students is given at Lane Hospital.

1 hour, 5th, 6th and 7th, or 8th semesters (Wilbur)

8. Medicine: Ward Work (Lane Hospital).—This consists of four hours per week of bedside work in Lane Hospital. [The senior class is divided into two sections. Section I is assigned to Lane Hospital for the 7th semester, and Section II for the 8th semester.] Instead of this course four hours in Medicine 11, 15, 21, 24 may be taken at the option of the student.

4 hours, 7th or 8th semesters (Wilbur, Cheney)

9. Medicine: Ward Work and Clinics (San Francisco Hospital).—Five hours are given to bedside instruction and there is a set Medical clinic on Saturday forenoon. [The senior class is divided into two sections. Section II is assigned to the San Francisco Hospital for the mornings of the 7th semester, Section I for the 8th semester.]

6 hours, 7th or 8th semesters (Hill)

10. Actinography.—Practical instruction in the Roentgen-Ray laboratory of Lane Hospital including Radio-Therapy and plate interpretation.

(I) 1 hour, 7th semester; (II) 1 hour, 8th semester (Boardman)

11. Actinography.—Advanced course upon the technique of Roentgen-Ray examinations, with a clinical study of patients from the standpoint of X-Ray examinations.

2 hours, 7th or 8th semester (optional) (Boardman)

12. Diseases of the Nervous System.—Recitations and demonstrations in the outpatient clinic.

1 hour, 5th semester (Schaller)

13. **Neurology.**—Recitations and clinical work in Lane Hospital and the outpatient department.

2 hours, 6th semester (SCHALLER)

14. **Neurology (San Francisco Hospital).**—Two hours per week are assigned for the clinical study of the neurological cases in the Stanford wards at this hospital.

(I) 2 hours, 7th semester; (II) 2 hours, 8th semester (WOLFSOHN)

15. **Neurology.**—Advanced work in the outpatient department, laboratory and hospitals, for students who have had courses 12 and 13 or their equivalent. Optional.

2 to 4 hours, MWTh mornings (SCHALLER)

16. **Psychiatry.**—A weekly lecture and clinic upon Mental Diseases.

1 hour, 7th semester (HOISHOLT)

17. **Psychiatry.**—Advanced lectures and clinics upon Mental Diseases. Optional.

1 hour, 8th semester (HOISHOLT)

18. **Pediatrics.**—Recitation and clinical work in the outpatient department.

2 hours, 5th semester

(YERINGTON, LYMAN, MEAD, HUFFAKER, HOLSCLAW)

19. **Pediatrics.**—Recitations covering the general field of Pediatrics, and clinical work in the outpatient department and in Lane Hospital.

5 hours, 6th semester (YERINGTON)

20. **Pediatrics.**—Clinical work in Lane Hospital.

2 hours, 7th semester (YERINGTON, HOLSCLAW)

21. **Pediatrics.**—Advanced work in the outpatient clinic and in Lane Hospital. Optional.

2 to 6 hours, MWTh mornings (YERINGTON, HOLSCLAW)

22. **Dermatology and Syphilis.**—A weekly clinical demonstration in Lane Hospital or the outpatient department, with a study of the Histopathology of the skin.

1½ hours, 7th semester (ALDERSON)

23. **Dermatology and Syphilis.**—A clinic once a week, with demonstrations upon diseases of the skin.

1½ hours, 8th semester (ALDERSON)

24. **Dermatology and Syphilis.**—An advanced course for seniors and physicians. Optional.

2 to 6 hours, 7th or 8th semesters (ALDERSON)

25. History of Medicine.—In association with other Divisions a weekly lecture or recitation will be held. The aim will be to have each Division present that portion of the history of medicine in which it is most interested. The students will be assigned a certain amount of journal and other preparatory work. 1 hour, 8th semester
(OPHÜLS, STILLMAN, SPALDING, WILBUR)

26. Dietetics.—A recitation and lecture course of one hour per week.
1 hour, 8th semester (WILBUR)

27. Jurisprudence.—The instruction in this course will be divided among the various Divisions, each one covering the points most essential to it. During 1914-15 lectures in this course were delivered by Professors CATHCART, HUSTON, CHEADLE, and WOODWARD of the Stanford Law Department.
1 hour, 7th semester (DICKSON)

28. Metabolism.—A course for senior students and others with equal preparation, in the practical study of metabolism. Optional.
4 to 8 hours, 7th semester (ADDIS)

29. Experimental Medicine.—Well equipped laboratories for medical research are available to capable students. The facilities of the wards and the dispensary may be used in association with the work. Optional
(WILBUR, ADDIS, BOARDMAN, DICKSON)

30. A Special Course will be offered to well trained physicians in the laboratories and the dispensaries and hospitals. Such students may register for advanced degrees, or as "Special Workers."
(WILBUR, ADDIS, DICKSON)

31. Practical Therapeutics and Prescription Writing.—An optional course open to fourth-year medical students, including exercises in prescription writing and in the practical care of patients.
1 hour, 7th semester (WILBUR)

Courses 1 to 7, 9, 10, 12, 13, 14, 16, 18, 19, 20, 22, 23, 25, 26, and 27 are required of all candidates for the degree of Doctor of Medicine. In addition four hours are required in any of the following courses: 8, 11, 15, 17, 21, 24, 28.

VI. DIVISION OF OBSTETRICS AND GYNECOLOGY

Alfred Baker Spalding, Professor.
George Burbank Somers, Clinical Professor of Gynecology.
Henry Augustus Stephenson, Instructor.
Henry Walter Gibbons, Frank R. Girard, Chester Biven Moore, Clinical Instructors.
William H. Banks, Shadworth Oldham Beasley, Arthur Lee Munger, Assistants.

The Women's clinic for the past year has provided for over one thousand new patients suffering from all variety of ailments peculiar to women, and in addition has provided for between three and four hundred applicants for confinement. This material furnishes an exceptionally good opportunity for instructing students practically in the physiology and pathology of the female genital tract. Students attend personally in the Outpatient Obstetrical service from ten to fifteen cases of confinement.

1. Obstetrics and Gynecology.—Recitations and discussions. For the greater portion of the year the general principles of obstetrics are considered. During the latter part of the second semester the more essential pathological conditions of gynecology are considered. Students prepare themselves from the standpoint of text-books and the literature for assigned topics and discuss with the instructor these subjects. The topics for discussion are illustrated with pathological specimens, clinical histories, manikin demonstrations, etc.

2 hours, 5th and 6th semesters (Spalding)

2. Manikin Exercises and Pathology.—The class is divided into sections for practical instruction in all the obstetrical exercises for purposes of diagnostic and operative procedures, and for practical instruction in the histology of the female genital tract and the more common pathological variations.

1 hour, 5th and 6th semesters (Spalding, Stephenson, Moore)

3. Practical Obstetrics.—For periods of two weeks, the senior student is detailed for his entire time as assistant to the Obstetrical interne. During this period he takes histories, examines ante-partum and post-partum patients, attends outpatients in labor, assists the interne with ward patients in labor, witnesses operations, makes daily rounds of the Hospital cases, makes milk mixtures under supervision

in the milk laboratory, and visits the home patients during the puerperal period.

4 hours, 7th or 8th semester (SPALDING, MUNGER)

4. Practical Gynecology.—In this course instruction in history taking, pelvic examinations, cystoscopic examinations, and non-operative treatment in the dispensary is alternated with instruction in operating room technique, assisting in minor operations, and examination of ward patients before and after operations.

2 hours, 7th and 8th semesters (SPALDING, GIBBONS, GIRARD)

5. Gynecology—Clinical Conference.—Members of the senior class present in rotation papers based on personal study of some particular patient and a resume of the literature bearing upon the pathological condition under consideration. These papers are discussed by the class.

1 hour, 7th and 8th semesters (SPALDING, STEPHENSON)

6. Special Courses in Cystoscopy, in Gynecological Diagnosis, and in Practical Obstetrics, will be arranged for individual students. The laboratory of Obstetrics and Gynecology is open throughout the year to properly qualified students who wish to do experimental work in Obstetrics and Gynecology.

VII. DIVISION OF PATHOLOGY

WILLIAM OPHÜLS, Professor.
CHARLES HERVEY BAILEY, Instructor.
JEAN R. OLIVER, Assistant.
M. B. POST, B. ROMERO, Technical Assistants.

1. General Pathology.—A course of lectures, demonstrations, and laboratory work which, following a general introduction into the field of Pathology, covers disturbances in circulation, regressive and progressive tissue changes, inflammation, and tumors. The study of human material will be supplemented by experiments. Two lectures and three laboratory periods of two and a half hours per week.

4th semester (OPHÜLS, BAILEY, OLIVER)

2. General Pathology.—An elective course of weekly recitations covering the same ground as course 1. Elective.

1 hour per week, 4th semester (BAILEY)

3. Special Pathology.—A course of demonstrations of fresh and preserved, gross and microscopic specimens illustrating selected chapters of Gross Morbid Anatomy. Part of the time will be devoted to

the technique of post-mortem examinations. Diagnostic work will be done in the 6th semester.

4 hours per week, 5th and 6th semesters (OPHÜLS)

4. Advanced Work in Special Pathology.—An elective course in Special Pathology is offered to students who have taken course 1. Students taking this course will assist at necropsies whenever possible. They are required to work up the histological or bacteriological problems connected with the necropsies which they attend. For this work they will be given the facilities of the laboratory. A deposit of $5 is required to cover such material as is used by the students. Such part of this as is not drawn against will be refunded at the end of the semester. (OPHÜLS, BAILEY)

5. Experimental Pathology.—An elective course open to students who have completed General Pathology (course 1). In this course infectious diseases will be taken up from an experimental point of view, and special attention will be given to those which are common to man and animals, or which may produce lesions in animals. Students will have an opportunity to watch the development of such diseases in animals, and the lesions will be studied at autopsy. Methods in common use for the diagnosis of infectious diseases by means of laboratory experiments will be taken up.

2 hours per week, one semester (BAILEY)

6. Research Work in the Pathological Laboratory.—Students wishing to do special work in the Pathological Laboratory should have finished course 1. They should consult with the executive of the Division in regard to the selection of a proper subject for investigation. As the laboratory accommodations are limited, students must do a reasonable amount of work, otherwise the privilege will be withdrawn. A deposit of $10 will be required to cover such material as is used by the student in the course of his work. Such part of this as is not drawn against will be refunded on the completion of the work undertaken. Work may be undertaken during the summer vacation. The same regulations apply to work on theses or for advanced degrees in the Division, except that in the latter case the student also should have finished course 3.

(OPHÜLS)

VIII. DIVISION OF PHARMACOLOGY

ALBERT CORNELIUS CRAWFORD, Professor.
ZENO OSTENBERG, WALTER K. WATANABE, Assistants.

1. Pharmacology and Materia Medica.—In the course in Pharmacology emphasis is placed on laboratory work. This requires three hours weekly during the fourth semester. In this course the student performs for himself, or has demonstrated to him by the other members of the class, the important experiments which illustrate the fundamental principles of pharmacology, and sees one or more experiments on all of the more important drugs. The relation of the laboratory work to rational therapeutics is constantly kept in mind. The lecture course embraces two hours weekly during the fourth semester, with one weekly conference or demonstration. During the fifth semester the work consists of lectures and recitations. In connection with the course in Pharmacology a short course in prescription writing is given.

(*a*) 6 hours, 4th semester; (*b*) 3 hours, 5th semester.
(CRAWFORD)

2. Graduate Course.—The laboratory is open throughout the year to properly qualified students who wish to carry on independent work in pharmacology.
(CRAWFORD)

3. Pharmacy.—A short optional course of demonstrations in pharmacy will be given. This will enable the student to understand better the advantages and dangers of combining drugs.
(———)

IX. DIVISION OF PHYSIOLOGY

OLIVER PEEBLES JENKINS, FRANK MACE MCFARLAND, Professors.
CLARA S. STOLTENBERG, Associate Professor.
JAMES ROLLIN SLONAKER, FRANK WALTER WEYMOUTH, Assistant Professors.

1. Physiology of Muscle and Digestion.—An experimental course covering the ground represented in Foster's Physiology, or Howell's Text-book on the same subjects. (Two lecture and five laboratory hours per week.) [Coure 2 in the Department of Physiology and Histology.]
4 units, 1st semester (JENKINS, SLONAKER)

2. Physiology of Blood and Circulation, Respiration, Elimination of Wastes, Metabolism, and Nutrition.—Follows course 1. An experimental course, with Foster's Physiology and Howell's Text-book as texts. One lecture and five laboratory hours per week.) [Course 3 in the Department of Physiology and Histology.]

4 units, 2d semester (JENKINS, SLONAKER)

3. Structure of the Nervous System.—The course consists of the dissection and comparative study of a series of vertebrate brains, including the human brain and cord, also the peripheral nervous system; abundant material is provided, also such necessary helps as the latest models and charts. For texts the student will use Quain, Edinger, and Barker. (One lecture and five laboratory hours per week.)

3 units, 1st semester (STOLTENBERG)

4. Anatomy and Histology of the Sense Organs.—The course is planned to accompany course 3, the two being designed to give the gross and minute anatomy of the central nervous systems and sense organs. The texts necessary for the student's use are Quain and Barker. (One lecture and five laboratory hours per week.)

3 units, 2d semester (STOLTENBERG)

5. Histology.—The study of the structure of the cell and its modes of reproduction, the epithelial, muscular, nervous, and connective tissues, and the outline of their development in a comparative way, occupy the first semester. During the second semester the structure of the blood and lymph, and the microscopic anatomy of the organs, are dealt with. Text required: Quain-Schäfer's Microscopic Anatomy. Elementary histological technique is taught during the course. In the second semester an opportunity is offered for a limited number of students to register for an extra unit, which is devoted to more extended histological technique. Prerequisite for course 5, course 1 or its equivalent. (One lecture and five laboratory hours per week.)

3 units, both semesters (MCFARLAND)

6. Physiology of the Nervous System and Sense Organs.—An experimental course in these subjects, designed to follow courses 3 and 4. Texts: Foster, Howell's Text-book. (One lecture and five laboratory hours per week.) [Course 6 in the Department of Physiology and Histology.]

3 units, 2d semester (JENKINS)

7. Journal Club.—Students in the advanced classes will be expected to meet once a week to discuss current literature in Physiology and

Histology. [Course 14 in the Department of Physiology and Histology.] 1 unit, 2d semester (Department Faculty)

8. Advanced and Research Courses in Physiology and Histology are open to those who are qualified to take them up.

X. DIVISION OF SURGERY

Stanley Stillman (executive), Adolph Barkan (emeritus), Emmet Rixford, Professors.

Leonard W. Ely, Associate Professor.

Rufus Lee Rigdon, Albert Brown McKee, Edward Cecil Sewall, Clinical Professors.

Frank Ellsworth Blaisdell, Leo Eloesser, Assistant Professors.

Harrington Bidwell Graham, Frank Hinman, Assistant Clinical Professors.

John Francis Cowan, Instructor.

James Eaves, George Rothganger, George Preston Wintermute, Clinical Instructors.

Carolyn Palmer, Anaesthetist, Lane Hospital.

Howard Felix Adler, Hans Barkan, John Robert Burrows, Frank Stephen Dolley, Arthur Lawrence Fisher, Frederick Mears Gedney, Louis David Green, Sylvan Lewis Haas, Clarence Elmer Hyde, Lester O. Kimberlin, Harvard Young McNaught, William O. Montgomery, Harold Staats Moore, Allan Earle Peck, Dexter Newell Richards, Melville Erskine Rumwell, Chester Howard Woolsey, Assistants in Clinic.

Subdivisions

OPHTHALMOLOGY GENITO-URINARY DISEASES ORTHOPEDICS
OTOLOGY, RHINOLOGY, AND LARYNGOLOGY

Instruction in Surgery begins in the fourth semester, with recitations and demonstrations in General Surgery, *i. e.,* the principles of surgery, surgical pathology, and the surgical diseases, together with recitations and demonstrations in fractures, dislocations, and deformities. The systematic text-book and lecture work in Regional Surgery is completed in the sixth semester. As far as possible clinical demonstrations will take the place of formal lectures. The work of the seventh and eighth semesters is essentially clinical, the general field being covered by means of clinics, practical demonstrations, bedside instruction, individual clinical investigation, and work in the laboratory of Surgical Pathology.

1. General Surgery (Surgical Pathology and Principles of Surgery).—Recitations, demonstrations, and laboratory work, utilizing clinical and pathological material from the outpatient clinics and Lane Hospital, and preparations from the museum and laboratory of Surgical Pathology.

2½ hours, 4th semester (STILLMAN, COWAN)

2. Fractures, Dislocations, and Deformities.—Recitations, study of X-Ray plates, and demonstrations of fractures and dislocations.

2 hours, 4th semester (ELOESSER, COWAN, BLAISDELL)

3. Regional Surgery.—Recitations and demonstrations in diseases of the extremities and certain affections of the head and neck.

2 hours, 4th semester (ELOESSER, COWAN)

4. Regional Surgery.—Recitations, demonstrations, and discussions on diseases of the abdomen.

3 hours, 5th semester (STILLMAN)

5. Regional Surgery.—Recitations, demonstrations, and discussions on diseases of the head, neck, and thorax not included in course 3, with special attention given to the surgery of the brain and spinal cord.

2 hours, 6th semester (RIXFORD)

6. Surgical Pathology.—A laboratory course in which surgical problems are considered from the standpoint of Pathology. Special attention is given to the study of tumors and gross specimens from the outpatient clinic and hospital operating rooms.

2 hours, 5th and 6th semesters (COWAN, BLAISDELL)

7. Surgical Clinics and Section Work.—In this course operative clinics are given twice a week in the amphitheatre, quizzes and demonstrations in the outpatient clinics, and bedside instruction and history taking in the surgical wards of Lane Hospital. As far as practicable the operative clinics are limited to cases which have been previously studied by the student either in the medical or surgical wards or in the outpatient clinics. Each student will likewise administer ten anaesthetics in connection with the course under the supervision of Dr. Carolyn Palmer, the anaesthetist at Lane Hospital.

5 hours, 5th semester; 4 hours, 6th semester (STILLMAN)

8. Surgery: Ward Works and Clincs.—Outpatient Clinics and Lane Hospital. (The senior class is divided into two sections. Section I is assigned to Lane Hospital for the mornings of the 7th semester, and Section II for the mornings of the 8th semester.) Formal clinics

are given once per week. Senior students are privileged to assist in operations and in the dressing of cases both in the outpatient clinics and hospital wards. One hour per week of this course may be devoted to courses 13, 14, 15, 16, 17, 18, at the option of the student.

3 hours, 7th or 8th semesters (STILLMAN)

9. Surgery: Ward Work and Clinics.—San Francisco Hospital—(Section II of the senior class is assigned to the San Francisco Hospital for the mornings of the 7th semester and Section I for the mornings of the 8th semester.) Three hours per week are spent either in the wards or operating room, and there is a set surgical clinic once per week. One hour per week of this course may be devoted to optional courses in Surgery.

4 hours, 7th or 8th semesters (RIXFORD, ELOESSER)

10. Ophthalmology.—Demonstrations, recitations, and clinics. This course covers in a practical way the general field of diseases of the eye. Instruction is given in the use of the ophthalmoscope, perimeter, etc. Operations are performed both in Lane Hospital and the outpatient clinic.

2 hours, 7th and 8th semesters (MCKEE)

11. Otology, Laryngology, and Rhinology.—Demonstrations, recitations, and clinics. The diseases of the ear, nose, and throat are covered in a general way, and the practical use of the important diagnostic instruments is taught. Operations are performed both in the amphitheatre and in the outpatient clinic.

2 hours, 7th and 8th semesters (SEWALL, GRAHAM, WINTERMUTE)

12. Genito-Urinary Surgery.—Recitations, quizzes, and clinics.—This course includes practical work in the outpatient clinic and training in the use of the urethroscope and cystoscope. Special attention is devoted to investigation of the upper urinary tract. Operative clinics are held once a week.

3 hours, 7th or 8th semesters (RIGDON)

13. Orthopedic Surgery.—Clinics and demonstrations. This course covers the general field of Orthopedic Surgery, and is given in Lane Hospital and in the outpatient department.

2 hours, 7th or 8th semester (ELY)

14. Operative Clinic.—An operative clinic for senior students and qualified physicians is held once per week. Optional.

2 hours, 7th and 8th semesters (STILLMAN)

15. Outpatient Clinics.—In this course opportunity is afforded senior students and qualified physicians of examining cases and of do-

ing dressings, bandaging, and minor operations in the outpatient clinic under instruction of the Assistants. Optional.

Three mornings per week, 7th and 8th semesters
(Haas, Hyde, Kimberlin, Rumwell)

16. Operative Surgery.—A course of operative surgery on the cadaver in which the student performs or assists in performing most of the classical surgical operations. Optional.

7th or 8th semester (Eaves)

17. Refraction.—A practical course in Physiological Optics and Refraction open to senior students and physicians. Optional.

1 hour, 7th or 8th semesters (McKee)

18. Advanced Ophthalmology.—Clinical work in the Outpatient Clinic and Lane Hospital open to senior students and physicians. Optional.

2 to 6 hours, 7th or 8th semesters (McKee)

19. Advanced Otology, Laryngology, and Rhinology.—Clinical instruction for advanced students, including surgical operations. Optional.

2 to 4 hours, 8th semester (Sewall, Graham)

In connection with the above course, through the co-operation of the various clinics and laboratories, opportunity is offered advanced students and physicians to make a special study of functional testing of the ear, tubercular lesions of the larynx, anatomy of the ear, nose, and throat, special bacteriology of the upper respiratory tract, Roentgen Ray diagnostic methods, and of performing operations upon the cadaver.

(Sewall, Graham, Wintermute, Moore, Blaisdell, Dickson, Boardman)

20. Special courses will be offered to well trained physicians in the laboratory of Surgical Pathology and in the outpatient clinic and hospitals. Such students may register for advanced degrees or as Special Workers.

(Stillman, Rixford, Blaisdell, Ely, Cowan)

MARINE BIOLOGICAL LABORATORY

Professors Charles Henry Gilbert and Oliver Peebles Jenkins, Directors.

The Laboratory buildings are located at Pacific Grove, two miles west of Monterey, and stand on a low bluff immediately facing the sea.

They consist of two two-story structures capable of accommodating about eighty students, and contain four general laboratories, one lecture-room, seventeen private rooms for special investigators, and a dark-room for photography. They are provided with running water, both salt and fresh, and ample provision is made for individual aquaria. The library and apparatus of the University are available for use in the Laboratory.

Session of 1914

Professor George Clinton Price, Instructor in Charge.
Leslie Sutherland Tulloch, Laboratory Assistant.

The Twenty-third Session extended over a period of six weeks, beginning May 25th and closing July 4th.

Courses of Instruction

1. **General Zoology.**—An elementary course open to all students and to teachers and others who desire an acquaintance with the anatomy and life-history of marine animals, and with the methods pursued in laboratory study. One lecture a day, the remainder of each day being spent in the laboratory or on the collecting grounds under the immediate direction of the instructor. This course is accepted by the Department of Medicine as satisfying the preliminary biological requirement for admission to the work of that department.

2. **Zoology.**—Open to students who have had course 1 in Zoology or Physiology or an equivalent. The object of this course is primarily to enable students to gain a wide general knowledge of marine forms, and to this end special attention is devoted to collecting both along the shore at low tide and at the surface of the ocean. Material thus collected is studied in the laboratory, and in this work students are encouraged to consult the zoological literature. Occasional lectures.

3. **General Embryology.**—A laboratory course in the general principles of the development of Invertebrate and Vertebrate forms, supplemented by lectures and assigned reading, and including the histogenesis of the reproductive cells, the maturation, fertilization, and early cleavage of the egg, and the formation of the germ layers, larval stages, and the early development of one or more Vertebrates. Open to students who have had at least a year's work in Zoology or Physiology.

Registration

The sessions of the Marine Biological Laboratory constitute an integral part of the biological work of Stanford University. Students register for this work at Pacific Grove at the beginning of the session, and receive upon its successful completion five units of University credit.

Expenses

A laboratory fee of $25 is payable in advance. To investigators prepared to carry on original work, the use of the laboratory is tendered free of charge. Applicants for these privileges are expected to satisfy the directors as to their preparation for such work. Pacific Grove is well supplied with boarding accommodations with a considerable range in price, and also with cottages furnished for housekeeping. Students pay on an average about one dollar per day for room and board. Some small groups of students form clubs, rent cottages, and manage their own housekeeping, thus reducing their living expenses.

UNIVERSITY LIBRARY

George Thomas Clark, Librarian.

Helen Binninger Sutliff, Chief Cataloguer.

Alice Newman Hays, Reference Librarian.

Louise Ophüls, Medical Librarian.

Thomas Lafayette Dyer, Acting Chief of Loan Desk.

Elizabeth Hadden, Chief of Order Department.

Minna Stillman, Acting Chief of Serial Department.

Mary Ives, Lena Marguerite Keller, Mary Elvira Smith, Cataloguers.

Margaret Brinton, Annie Harriet Keatinge, Glauce M. Wilson, Cataloguers, Lane Library.

Frederick Edward Brasch, Law Librarian.

Agnes Boezinger, Margaret Davis, Marcella Carmelita Duff, David Porter Dunlap, [2]Hilde Flügel, Helen Avery Gale, Ethel Grace Heald, Helen Katharine Kreps, Albert Harold Morosco, Lena Rose Neth, Frances June Odenheimer, Philip Doss Bradley Perham, [2]Harry Leslie Say, Ewing Carruth Scott, Hannah Lillian Todd, Helen Ella True, Francis Foss Wheeler, Lonnie Houston Wilkie, Ralph S. Lund, Jean Oliver, Assistants.

Mabel Newcomer, Stenographer.

The Library is housed in the Thomas Welton Stanford Library Building, which forms the central portion of the easterly half of the outer quadrangle façade. On the main floor are the general reading

rooms, with accommodations for 220 readers, the reference room, serial room, and catalogue room. On the second floor are six seminary rooms, used exclusively by the Departments of Economics, English Literature, Germanic Languages, Greek, Latin, and History.

The Library is open during term time on week days from 8 a.m. to 10 p.m., except on Saturdays, when it is closed at 3:30 p.m.

During the short vacation the hours are from 8:30 a.m. to 4:30 p.m., Saturdays to 12:30 p.m., and during the long vacation from 9:00 a.m. to 4:00 p.m., Saturdays 9:00 a.m. to 12:00 m. The shelves are open to members of the faculty, and to students engaged in advanced work upon the recommendation of their instructors. Books, other than works of reference, not required for class use, are lent for a period of two weeks.

Including the departments of Law and Medicine the Library contains upward of 258,000 volumes. The income of the Jane Lathrop Stanford Jewel Fund, certain other special funds, and fees provide amply for its maintenance and growth. Noteworthy special collections are as follows:

THE JORDAN LIBRARY OF ZOÖLOGY.—A collection consisting largely of works on ichthyology, to a considerable extent made up of a vast number of authors' separates, which have been accumulated by Chancellor JORDAN, bound in convenient form, indexed, and catalogued. The more voluminous publications, such as the works of Cuvier, Lacépède, Bloch, Bleeker, Gunther, and others, are well represented. These, supplemented by the proceedings of various societies and institutions, make a collection of books of great value to advanced students and investigators in ichthyology. The library is conveniently arranged, and is situated in the Zoology building near the laboratories and collections.

THE BARBARA JORDAN LIBRARY OF BIRDS.—A memorial collection presented by Chancellor JORDAN, and to which frequent additions are made. While some of the older texts are not represented, it is a good working library of ornithology and contains the principal modern works on the subject.

THE HOPKINS RAILWAY LIBRARY.—A collection of approximately 10,000 volumes and pamphlets dealing with the subject of transportation. In 1892 Mr. TIMOTHY HOPKINS, of San Francisco, presented to the University his private library on railroads, consisting of about 2,000 books, personally providing for its maintenance and growth for many years. At present there is an annual library appropriation for this purpose. The collection is shelved by itself in one of the seminary rooms. It is general in scope, intended to embrace all subjects touching

on the building, maintenance, and operation of railways. It is especially rich in state and government reports, as well as in reports of individual railroads both in the United States and Europe, with much material pertaining to their history.

THE HILDEBRAND LIBRARY.—In 1895 the University acquired the library of the late Professor Hildebrand, of Leipzig, containing more than 5000 volumes and pamphlets relating largely to Germanic languages and literature, the seventeenth and eighteenth centuries being especially well represented, and including also a notable collection of three hundred old dictionaries. The value of the books is greatly enhanced by the manuscript notes of Professor Hildebrand.

THE THOMAS WELTON STANFORD AUSTRALASIAN LIBRARY.—A good working collection of books relating to Australia and New Zealand. It is especially rich in early voyages, travels and descriptions. Several hundred volumes of parliamentary reports of the Australian states, the Commonwealth, and New Zealand, are included. The publications of learned societies, such as the Royal Societies of New South Wales and Victoria, the Australian Museum, and the New Zealand Institute, are well represented, while considerable pamphlet material also is available.

BRITISH PARLIAMENTARY PAPERS.—An unusually complete set of British government documents from 1801 to date, some 6500 volumes, of which the first 3500 volumes constituted a special gift to the Library, made by Mrs. Stanford in 1900. The set contains not only the full papers laid before Parliament from the customary departments of government, such as diplomatic, colonial, and financial papers, but also the most valuable reports of the special committees and royal commissions, offering material for research in almost every field of knowledge. Taken in connection with the University's excellent set of United States Documents, and of the governmental publications of Canada, and of Australasia, the collection offers unusual facilities for study in the public undertakings of English-speaking peoples.

THE JARBOE COLLECTION ON THE FRENCH REVOLUTION.—Acquired in 1910. It contains original materials, principally in French, relating to the Revolutionary and Napoleonic era. Two features of the collection are of particular interest to advanced students of history—the original and contemporaneously printed pamphlets, of which many are unusual; and the memoirs, of which there is a comprehensive selection.

THE LANE MEDICAL LIBRARY.—Founded by the directors of Cooper Medical College in accordance with the bequest of Mrs. L. C. Lane. The Library contains over 35,000 volumes, and is particularly rich in its collection of medical and allied periodicals. The leading domestic

and foreign journals are currently received. The new library building, erected in 1912, is a fireproof structure of Colusa sandstone, and is located opposite the other medical buildings, on the corner of Sacramento and Webster streets, San Francisco.

The Branner Geological Library.—Room 333, Geology building. This contains over 30,000 books, pamphlets, and maps, relating chiefly to geology, mineralogy, paleontology, geography, exploration, metallurgy, and mining, including most of the state and government reports, and the publications of scientific societies in all parts of the world. Particulars regarding the sets may be seen at the Reference Desk in the general library.

THE MEMORIAL CHURCH

The Rev. David Charles Gardner, Chaplain.
Louis H. Eaton, Organist.

Services of public worship are held daily at 8 a.m. and on Sundays at 11 a.m.

The following named Clergymen have been invited by the Chaplain to occupy the pulpit during 1914-15:

The Rev. Caleb L. Dutton, San Francisco, Unitarian.
The Rev. Albert W. Palmer, Oakland, Congregationalist.
The Rt. Rev. William Ford Nichols, San Francisco, Episcopalian.
The Rev. George H. Breeden, Fresno, Christian.
The Rev. John Hardgrove Boyd, Portland, Oregon, Presbyterian.
The Rev. Samuel Atkins Eliot, Boston, Mass., Unitarian.
The Rev. Raymond F. Brooks, Berkeley, Congregationalist.
The Rt. Rev. Thomas Frank Gailor, University of the South, Memphis, Tennessee, in residence as special preacher and lecturer in Ethics for six weeks, January 24 to February 28.

UNIVERSITY CHOIR

Louis H. Eaton, Organist and Director.

The Choir sings at the morning service each Sunday in the Memorial Church, the music consisting of anthem, chant, and hymns.

Rehearsal Th 7:35 1 unit of credit per semester

During the second semester a larger separate choir is formed for the performance of one of the great oratorios, in 1914-15, Handel's "Messiah."

Rehearsals as arranged 1 unit of credit

LECTURES, RECITALS, LITERARY CONTESTS, HONORS, AND CLUBS

University Assemblies

UNIVERSITY Assemblies are held at intervals, averaging about once a fortnight, during the regular hours of instruction. All university classes are suspended during the Assembly hour. In addition to a number of Student Assemblies, the following speakers and subjects have been represented in 1914-15:

September 4, 1914.—Annual addresses to the entering class: President Branner, the Dean of Women, the Chaplain.

October 8.—Confessions of a Peacemaker: Chancellor David Starr Jordan.

January 7, 1915.—The Crisis in Japan: Dr. Sidney L. Gulick, Doshisha University, Kyoto, Japan.

February 2.—College Life: Dean Andrew Fleming West, Princeton University.

Lectures

Presented by the University or under the auspices of various societies and clubs.

September 20.—In Memoriam, Charles Gardner Lathrop: Address by Judge Samuel Franklin Leib, of San Jose.

October 22.—The Balkans: Chancellor David Starr Jordan.

December 8.—In Memoriam, Professor Ewald Flügel. Addresses by Professors Anderson, Angell, and Rendtorff.

January 6.—The Physical Relation of the American Indian to the People of Western Asia: Dr. Ales Hrdlicka, of the National Museum, Washington, D. C.

March 4.—The Great War and Woman's Part in It: Mrs. May Wright Sewall, Director of Women's Peace Congress, Indianapolis, and Mrs. Pethwick Laurence, London, England.

Cosmopolitan Club

January 18.—My Travels in Europe at the time the War broke out: Assistant Professor P. A. Martin.

February 15.—The International Students' Reunion: Mr. A. L. Cowell, Assistant Director of Congresses, Panama-Pacific Exposition.

SOCIOLOGICAL SOCIETY

November 19.—Anarchy Versus Socialism: Mr. PAUL WANDER.

January 7.—The College Man and the Coming Civilization: the Rev. ROBERT WHITAKER, of Los Gatos.

YOUNG MEN'S CHRISTIAN ASSOCIATION

September.—(1) The European War, (2) International Law and the European War: Professor KREHBIEL.

October.—(1) Religion and the College Man, (2) Success and the College Man: Chancellor JORDAN.

December 2.—Penal Institutions: The Rev. ARCH PERRIN, of San Francisco.

January 10.—Life's Motives: The Rev. JOHN H. BOYD, of Portland, Oregon.

January 17.—Reading of Galsworthy's Justice, by Professor BASSETT.

January 24.—The Convictions of a Socialist: Mr. J. STITT WILSON, of Berkeley.

January 31.—Morals of Business: Bishop THOMAS F. GAILOR, of Tennessee.

February 2.—Dealing with Sex Life: M. J. EXNER, M. D.

February 7.—Democracy and Student Self Government: Professor ADAMS.

February 14.—The Profession of Advertising: Mr. GEORGE E. EBERHARD, of Berkeley.

February 21.—Religion and Business: Mr. ARTHUR ARLETT, of Oakland.

YOUNG WOMEN'S CHRISTIAN ASSOCIATION

September.—(1) Stanford Traditions: Professor MURRAY; (2) Social Life of a College Woman: Chaplain GARDNER; (3) The African at Home: Mrs. COLE; (4) Social Service in Aberdeen: Miss LAURA FLORENCE.

October.—(1) The New Japan, and The Girls of Tokio: Miss MARGARET MATTHEW; (2) Indian Life: Miss MARY BENTLEY, of Berkeley; (3) Our Mexican Neighbors: Mrs. WALLACE; (4) The Children of Other Lands: Mrs. DOROTHEA POTTER, of Oakland; (5) An Evolutionary Religion: Professor KREHBIEL.

November.—(1) The Fallacy of Disraeli's Philosophy: Mrs. RUSSELL; (2) The Maud Booth Home: Mrs. DUNCAN.

November-December.—(1) The Drift toward Religion, (2) Why I

Believe in God, (3) A Religion for Health, Happiness, and Efficiency: The Rev. Albert W. Palmer, of Oakland.

January.—(1) Possibilities of the New Year: Chancellor Jordan; (2) Work of the Y. W. C. A. at the Exposition: Miss T. Brookman; (3) The Necessity of Faith: The Rev. Carl M. Warner, of Palo Alto.

February.—(1) Christianity in the Life of a Student: Bishop Gailor, of Tennessee; (2) An Opportunity for Social Service: Deaconess Hodgekin; (3) The Greatest Test of Character: Miss Mary Bentley.

JUNIPERO SERRA CLUB

October 27.—Modernism in the Catholic Church: The Rev. Joseph M. Gleason, of Palo Alto.

November 19.—Religion and the Universities of To-day: The Rev. Charles A. Ramm, St. Mary's Cathedral, San Francisco.

ENGINEERING SOCIETIES

October 20.—The Development of Hydro-Electricity: Mr. J. D. Galloway, of San Francisco.

STANFORD UNION

March 3.—Conditions of Permanent Peace: Mr. August Schvan, of Sweden.

Medical School

September 17.—Cardiac Irregularities Arising in the Auricles: Professor Albert W. Hewlett, University of Michigan Medical School.

POPULAR MEDICAL LECTURES

January 15.—Modern Medicine: Dr. Ray Lyman Wilbur.

January 30.—Feeble-Mindedness, Its Causes and Consequences: Dr. William Palmer Lucas, University of California.

February 12.—The Problem of the Crippled Child: Dr. Leonard W. Ely.

February 26.—Colds: Dr. Wm. Fitch Cheney.

March 12.—How the State Is Providing for the Injured Working Man: Dr. Morton R. Gibbons, Medical Director, Industrial Accident Commission.

March 26.—Cancer: Dr. Emmet Rixford.

Musical and Dramatic Recitals

September 25.—Presentation of David Belasco's "Men and Women," by Sword and Sandals.

October 13.—Reading of Maeterlinck's "Aglavaine and Selysette," by Arthur Row.

October 23.—Presentation of "Routing Razmataz," by Ram's Head.

November 20.—Presentation of James Montgomery's "Ready Money," by the Sophomore Class.

February 5.—Presentation of Henrik Ibsen's "The Pillars of Society," by the Masquers.

March 2.—English, Scottish, and Irish Folk Songs, by the Misses Fuller.

March 25.—Presentation of the Junior Opera, "At the Dragon's Eye."

PENINSULA MUSICAL ASSOCIATION

November 21.—Song Recital: Mr. Evan Williams.

December 12.—Violin Recital: Mr. Arrigo Serato.

April 17.—Song Recital: Mme. Julia Culp, with Conrad von Bos, accompanist.

Phi Beta Kappa Open Meeting

May 17, 1914.—The Address, Culture and Power: Bishop Edwin Holt Hughes, San Francisco; the Poem, The Scholar and the World: Miss Irené Hardy, Palo Alto.

Commencement

May 18, 1914.—Address to the Graduating Class: President John Casper Branner.

Founders' Day

March 9, 1915.—The Foundation Ideals of Stanford University: Chancellor David Starr Jordan.

The Raymond Fred West Memorial Lectures on Immortality, Human Conduct, and Human Destiny

"In memory of our beloved son, Raymond Fred West, a student in Leland Stanford Junior University, who was drowned in Eel River, California, on January 16, 1906, before the completion of his college course, we wish to present to the trustees and authorities of the Leland Stanford Junior University, at Palo Alto, California, the honored Alma Mater of our son, the sum of ten thousand dollars, to be held as a fund in perpetual trust, for the establishment of a lectureship on a plan similar to the Dudleian Lectures and the Ingersoll Lectures at Harvard University. . . .

"It is our wish that such lectures shall not form part of the usual college or university course, nor shall they be delivered by any professor or instructor in active service in the institution. Such lecturer may be a clergyman or a layman, a member of any ecclesiastical organization, or of none, but he should be a man of the highest personal character

and of superior intellectual endowment. He shall be chosen by the Faculty and the Board of Trustees of said University in such manner as the said Board of Trustees may determine, but the appointment in any case shall be made at least six months before the delivery of said lecture. . . .

"The course of lectures shall be known as the 'Raymond Fred West Memorial Lectures on Immorality, Human Conduct, and Human Destiny.'"

In accepting this gift from the donors, Mr. and Mrs. Fred West, of Seattle, Washington, and establishing the lectureship as provided in the terms of the gift, the University has adopted the following plan and regulations:

That these lectures be delivered on alternate years, the first in the year 1911; that the lecturer give at least three lectures; that these lectures be published in book form within not less than two years; that the lecturer have the option of publishing them himself, in which case the University will purchase a hundred copies, or of having the University publish them, in which case it will retain the copyright. In any case, the manuscript of the lecturer must be filed in the University archives;

That the honorarium given be decided in each case by the Board of Trustees, and that unless otherwise ordered the entire earnings of the West fund for the two years be devoted to honorariums and to the purpose of publication;

That the West Lecturer be each time nominated by the President, with the approval of the Advisory Board, and the consent and ratification of the Board of Trustees, as is the case with ordinary appointments.

The third series of the West lectures was given in October, 1913, by Canon Hastings Rashdall, of Oxford, England.

The Bonnheim Ethical Dissertations and Discussion

The purpose of the Bonnheim dissertations and discussion, as defined by the Founder, Mr. Albert Bonnheim, of Sacramento, is as follows: "It is not so much desired to obtain new facts or new truths in ethics as it is to place the truth which we now have before as many students as possible, so that they will take greater interest in questions dealing with ethical problems." The competition is open to all undergraduate students of Stanford University, and is divided into two parts:

1. *The Bonnheim Dissertations.*—The general regulations governing the competition are as follows: Each competitor must deposit with the Registrar before a fixed date in January an essay upon the subject

assigned by the committee. The essays must not be signed, but should have some mark of identification and be accompanied by a sealed envelope containing the name of the author. They must be typewritten on thesis paper of regulation size. No limit of length is prescribed, but a treatment not to exceed ten thousand words is recommended. The subject announced is intended by the committee to be a general one. It is desirable that dissertations be limited to some particular phase of the general subject. The judges will announce the names of the four competitors who present the best Bonnheim dissertations, awarding them premiums of $50 each. But no award will be made to any essay not deemed worthy of recognition. Copies of successful dissertations must be deposited in the President's Office for transmission to Mr. BONNHEIM.

2. *The Bonnheim Discussion.*—The winners of the Bonnheim premiums for dissertations shall be qualified to engage in the discussion, which will be upon the same subject as the dissertations, and which will be held the first week in February. The Bonnheim prize of $50 will be awarded to the speaker who in his discussion of the subject shows the clearest insight and makes the most effective presentation. Each speaker will be allowed twenty minutes.

The general subject for 1914-15 was "The Ethical Aspects of a Minimum Wage for Women and Minors." The essays were received January 15, and the discussion took place February 9. Premiums of fifty dollars each were awarded to ALBERT FREEMAN COYLE, '15, HARRY WARNER FRANTZ, '17, and JOHN CORNELL HOLLAND, '18, and of twenty-five dollars each to JOHN WILLOUR FRIBLEY, '16, and ALBERT JOHN HETTINGER, JR., '16. The Bonnheim Discussion prize was won by ALBERT JOHN HETTINGER, JR., '16.

The judges of the dissertations were Judge GEORGE E. CROTHERS, of San Francisco, and Professors STUART and HUSTON; of the discussion, Professors CARRUTH, ELMORE, and MEYER.

The subject for 1915-16 will be "The Relation of the State to the Problem of the Unemployed." Dissertations must be left at the Registrar's Office not later than 4:30 p.m., January 14. The decision of the judges will be announced January 28, and the discussion will be held February 4.

INTERCOLLEGIATE DEBATE

An INTERCOLLEGIATE DEBATE, under the auspices of the Associated Students of the University of California and of the Leland Stanford Junior University, is held in November of each year. In 1914-15 the debate was held November 20, in the auditorium of the Girls' High School, in San Francisco.

The question for discussion was, "Resolved, That California Should Abolish State-wide Initiative and Referendum." The contestants were Albert Freeman Coyle, '15, Albert John Hettinger, Jr., '16, Wayne Leslie Miller, '17, of Stanford; Thomas G. Chamberlain, '15, John H. Levy, '15, and Eugene King Sturgis, '15, of the University of California. The judges were Judge Thomas J. Lennon, of San Francisco, Judge John E. Richards, of San Jose, and Judge M. C. Sloss, of San Francisco. The debate was won by the University of California.

Carnot Medal

The Carnot Medal, presented by the Baron de Coubertin, for the purpose of encouraging the study and discussion, in California, of French history and politics, is awarded annually to the student who, in the opinion of the judges, proves himself the best debater in a contest held for that purpose between Stanford University and the University of California.

Under the rules of the contest the general subject for discussion in 1914-15, "The Educational System of France Since 1900," was made known in December, 1914. The contest occurs April 9th and the particular phase of the question to be discussed will be made known to the contestants two hours before the time set for the debate.

The Pacific Coast Debates

Debates with the Universities of Washington and Oregon are held under the auspices of the Pacific Coast Debating League, composed of Stanford University, the University of Oregon, and the University of Washington. Each institution is represented by two teams of two men each. The teams debate the affirmative and negative of the same question, which is chosen by the intercollegiate debating committees of the three institutions. The affirmative side of the question debates at home, while the negative side contests at one of the other universities.

The Edward Berwick Junior Peace Prize

Under the auspices of the California Branch of the American Peace Society, an annual prize of fifty dollars, called the Edward Berwick Junior Peace Prize, is offered for competition by undergraduate students of Stanford University. The award is made to that speaker who, in a public contest, delivers the address which in the opinion of the judges is most effective in promoting the cause of international peace. A student who has once won the peace prize is not eligible to participate again in the contest. In 1914-15 the contest was held January 19. The contestants were Albert Freeman Coyle, '15, John Alford Hanna,

gr., Albert John Hettinger, '16, Ren Hirao, '16, Arthur Lockwood Johnson, '16, Wayne Leslie Miller, '17, Albert Harold Morosco, '16, Ernest Elias Williams, '17. The judges were Professors Spaulding, and Brown and Instructor Hill. The prize was awarded to John Alford Hanna, gr.

The date of the 1915-16 contest will be October 19.

Essays on Total Abstinence

A prize of fifty dollars is offered annually, under the auspices of the Woman's Christian Temperance Union, to Stanford students for the best essay on Total Abstinence from Alcoholic Liquors.

Essays in competition for this prize should contain not less than two thousand and not more than three thousand words, and should be sent to the Committee on Literary Contests on or before July 1. The award will be made by a board of judges chosen jointly by officers of the Woman's Christian Temperance Union and the Faculty Committee on Literary Contests. No award will be made if no manuscript is deemed worthy of special recognition and unless at least six essays are submitted. The winning essay is eligible for competition for a state prize of $50. A national prize of one hundred dollars is awarded to the best manuscript of those which have already won local and state prizes. In 1913-14 the local and state prizes were won by Albert Freeman Coyle, '15, whose essay tied for first place in the national contest and was awarded half of the national prize.

Philological Association

Associate Professor Benjamin Oliver Foster, President.
Assistant Professor Stanley Astredo Smith, Secretary.

The University Philological Association was organized September 17, 1892, for the purpose of reading and discussing results of scientific investigations in language and literature. The membership consists of the instructors and advanced students in the different language departments in the University. The regular time of meeting is the first Thursday of each academic month, excepting September, December, and May, at 3:30 p.m. The following papers were presented during the calendar year ending April 1915:

October, 1914.—(1) Professor Scott on the Duration of the Trojan War: Associate Professor Foster; (2) The Influence of Amyot on Corneille's Nicomède: Assistant Professor Stanley A. Smith.

November.—(1) Walter Savage as an Exemplar of Comparative Literature: Mr. Chislett; (2) Shakespeare's Sonnets Interpreted in the Light of His Plays: Assistant Professor Gray.

January, 1915.—Memorial Meeting in honor of Professor FLÜGEL. Main address, An Estimate of Professor Flügel's Scholarly Work: Assistant Professor BRIGGS. Short addresses by Professors MURRAY, FAIRCLOUGH, and JOHNSTON, and Assistant Professor HILMER.

February.—(1) The Subject of the Iliad: Professor MURRAY; (2) Synatepha in Old Spanish: Assistant Professor ESPINOSA.

March.—(1) The Literary Sources of Goethe's Tasso: Associate Professor COOPER; (2) Notes on Vergil: Professor FAIRCLOUGH.

SCIENCE ASSOCIATION

Assistant Professor ELMER REGINALD DREW, President.
Assistant Professor LEONAS LANCELOT BURLINGAME, Secretary.

The SCIENCE ASSOCIATION was organized January 17, 1894. Original investigations and papers of general interest on scientific topics are presented from time to time.

The following papers were read before the Association during 1914-15:

September 30, 1914.—The International Movement of Gold: Professor WHITAKER.

October 21.—The Effect of a Vegetable Diet on Some Animals: Assistant Professor SLONAKER.

November 18.—The Vegetation of the Mt. Robson Region: Dr. W. S. COOPER.

December 9.—Liquid Air: Professor FRANKLIN.

January 27, 1915.—The Quantum Theory of Natural Units of Energy: Associate Professor F. J. ROGERS.

February 24.—Development of Electric Power in Connection with the Hetch Hetchy Water Project: Professor DURAND.

March 24.—An Eclipse Camp in War Time: Professor HEBER D. CURTIS, of the Lick Observatory.

April 21.—High-voltage and High-frequency Electric Currents: Professor RYAN.

THE FORUM

Executive Committee: Professor CHARLES HENRY GILBERT, Chairman; Professor ARLEY BARTHLOW SHOW, Secretary-Treasurer; Professor RAYMOND MACDONALD ALDEN.

THE FORUM, organized in 1909, is a Faculty Club for the unofficial discussion of academic questions. The following papers were presented in 1914-15:

October.—The Doctrines of Pan-Germanism: Chancellor JORDAN.

November.—University Education for Business: Professor WILDMAN.

January.—Impressions of an American Rhodes Scholar at Oxford: Dr. STOLZ.

February.—The Junior College and Some Junior College Problems: Professor ALEXIS F. LANGE, University of California.

March.—Student Discipline: Professor WOODWARD.

LELAND STANFORD JUNIOR MUSEUM

HARRY C. PETERSON, Curator.
JAMES SCOTT TOPHAM, Assistant Curator.
HAROLD BOOTH ASHTON, GRENVILLE GATES HOWARD, G. ITO, GEROID ROBINSON, ELMER WILLIAMS, Assistants.

In 1880, Leland Stanford, Junior, then eleven years of age, accompanied his parents on a trip through Europe, and collected numerous mementoes of the places visited. In 1883, on a second trip he began to pursue this object more ambitiously, and finally with the idea of establishing a museum. The Leland Stanford Junior Museum was designed by Mrs. Stanford as a memorial to perpetuate this idea, and the various collections are mainly her gift to the Museum.

The collection made by Leland Stanford, Junior, between 1880 and 1884, has been placed in two rooms (A and B), and in room A his own arrangement is reproduced in detail. In the room adjoining (B) are found mementoes of his early life. These two rooms contain especially Egyptian bronzes, Tanagra figurines, Greek and Roman glass, armor, mosaics, Sèvres and Dresden ware, and the like.

The Memorial Room (O) was designed to contain personal mementoes of Senator and Mrs. Stanford. The collection includes ancestral portraits of the Stanford and Lathrop families; two cases devoted to the Grant family collection; racing trophies; Muybridge's first photographs of "Animals in Motion," and subsequent works; the "Last Spike," and other historic relics of the Central Pacific Railroad; a large assortment of Point, Alençon, Chantilly, Duchesse, Honiton, Valenciennes, and other laces; India shawls, fans, Worth dresses, antique jewelry, and European souvenirs.

The vestibule and upper corridor are devoted principally to statuary, old and rare books, papers, etc., including Duc de Loubat's reproductions of Aztec and Mexican manuscripts, a 16th century illuminated Turkish Koran, Lord Kingsborough's "Antiquities of Mexico," and German engravings.

The Di Cesnola Collection (rooms C and E) contains five thousand pieces of Greek and Roman pottery and glass from the Island of Cyprus.

Room F contains a collection of Venetian glassware and chandeliers, mirrors, and mosaic art pieces, the gift of Messrs. Salviati & Camerino.

of Venice, Italy. Iridescent glass, Etruscan vases, Roman lamps, sculptured marble heads, and bas-reliefs of the first century were added by Mrs. Stanford.

The American collection (I) is made up of mound relics, Indian baskets, Acoma ware, utensils, Alaskan canoes, totem poles, etc. In this room is also a display of material of the stone age purchased by Mrs. Stanford in Denmark, as well as a collection of Samoan relics and war implements, given by Chancellor JORDAN. The center case in this room contains practically all the implements extant of the old Mission Dolores, presented by Don Pablo Vasquez, whose father was the last major-domo of the Mission.

In the Chinese and Japanese room (K) there is a collection of bronzes, arms, china, lacquer, cabinets, musical instruments, rich embroideries, and specimens of wood-carving, including the Imperial bedroom set, a marvel in wood-carving and inlaid work.

The Japanese collection, purchased by Mrs. Stanford in 1902, consists of cloisonne, Satsuma, porcelain, embroideries, Buddhistic images, and ivory carvings. The large bronze Koro, over 300 years old, is especially noteworthy. The Corean collection, the gift of Mr. Timothy Hopkins, contains costumes, household goods, cabinets, screens, etc. Mr. Hopkins has also placed in the Museum a collection of ancient and modern coins and medals (Room F).

The Fine Arts Collections (rooms P, Q, R, U, and V) include pictures by Messonier, Bouvier, Bonnat, Richter, Carolus-Duran, Van Wyck, Bierstadt, Ch. Landelle, Courtois, Piot, Munier, Brozik, Ricci, Humphrey Moore, Porteilje, Bradford, E. Paoletti, Mazzoni, Keith, Hill, Charles Nahl, C. T. Wilson, and many others.

A recent collection of eighty-five oil paintings, presented by Mr. Thomas Welton Stanford of Melbourne, Australia, includes canvasses and panels from Minderhout Hobbema, James Giles, R. S. A., John Frederick Herring, Lienur, Van der Houten, Francis Snyders, W. J. Laidlay, David Bates, John Yarley, Juliun M. Price, J. W. Ready, William Melby, James E. Meadows, Elijah Walton, F. G. S., W. Henry, W. Koek-Koek, E. Wake Cook, T. R. Miles, Sr., John Glover, Herr Schnars-Alquist, Louis Buvelot, William Hart, William Shiels, R. S. A., S. Bird, Patrick Nasmyth, Emil Bayard, Gerard Lairesse, C. Wimmer, Salvator Rosa, G. Koken, John Weenix, Bachman, Kobell, Jr., Charles Stuart, Heinrich Rasch, Melchoir Hondecooter, Marie Angelica Kaufman, Ten Kate, George Earl, Guardabassi, and E. G. Lewis. This collection is in Room U. A collection previously presented by Mr. Stanford includes

a group of sixty oil paintings of Australian scenes, the work of I. W. Curtis, of Australia. Many of these are now hung in Room Q.

Room V contains the Anna Lathrop Hewes collection of paintings, statuary, mosaic, etc. Ceramics collected by Mrs. Stanford include Sèvres, Dresden, Royal Berlin, Persian, Pompador crystal, Bohemian. and numerous other wares.

Through the courtesy of Wells, Fargo & Co., all gifts intended for the Museum will be transported free of charge over their lines, in shipments of fifty pounds or less, from railroad points in California, Oregon, and Nevada, if addressed to The Curator, Leland Stanford Junior Museum, Stanford University, California.

Pending the complete restoration of the Museum building, a tempo rary installation of exhibits has been made in the main portion.

Museum hours: 10:00 a.m. to 5:00 p.m. except Sundays and holidays.

DEGREES CONFERRED

*September 12, 1913; †January 9, 1914; May 18, 1914.

BACHELOR OF ARTS

GREEK

John Daniel Cooke
†Emanuel Rhodes Nusbaum
Flora Marie Rausch
Eleanor McKee Wyman

LATIN

Alice Anna Brennen
Constance Darrow
†Mollie Margaret Howe
†Ella Nancrede McDonald
Natalie Macrum
Lena Rose Neth
†Kathrine Taggart
†Della Irene Talboy

GERMANIC LANGUAGES

Anna Bliss
Alice May Chandler
Mabel Irene Clark
Lawrence Clayton
*Anna Passmore Coggins
Marion Lucy Curtner
Eva Arabel Cushman
Florence Martha Dupuy
Marie Genevieve Eustace
Jean Juliette Garver
†Helen Clifford Horton
Lina Stella Jacob
†Petra Beatrice Johnston
Dorette Jones
Marjorie Ella Landers
Constance Marie Mader
Frances June Odenheimer
Mildred Smith
Caroline Elizabeth Squire
†Dorothy Esther Stendel
†Ruth Claire Tuttle
Susan Clark Tyler

ROMANIC LANGUAGES

Helen Bradley
Dorothy Parks Gunnell
Helen Greta Hazzard
Gladys Margaret Lee
Grace Sheridan

ENGLISH

Margery Bailey
Beatrice Josephine Bingham
Edith May Bodley
Clara Cram
Vera Leona Everly
Bessie Tee Ferguson
Mary Emily Gray
Alice Miriam Harrier
Florence South Herrick
Alice Maye Hoffman
Helen Josephine Hurd
Edna La Vone Jackson

Frances Mary Johnson
Margaret Julia Linnane
†Frances Marie Livengood
†May Elizabeth McCormack
†Arnie Lilian McPherron
Georgia Edith Maxwell
Margaret Elizabeth Newman
†Hanji Nomura
L. Marie Riggins
Mary Louise Rodden
Mary Canice Sullivan
Lucile Bernice Ulery
Jean Mae Valentine

PSYCHOLOGY

*Beatrice Elizabeth Freuler

PHILOSOPHY

Bernard Gabiné
Norman Leslie Lamb
Dhan Gopal Mukerji

EDUCATION

Wenona Gladys Ackley
Mary Minerva Anderson
Charlie Elizabeth Beebe
Grace Olive Cookman
†John Randolph Cookman
Elsa Flatau
Gladys May Frary
Albertina Harriet Grove
Effie Izah Hawkins
Laura Elizabeth Herron
Vivian Mildred Howard
Minnie Ruth Kimura
Elmer Miller
Isabel Rowell
Leslie Gaines Smith
†Mildred Harriet Thompson
†Gertrude May Trace
*J. Harold Williams
Irving Leroy Wright

HISTORY

David William Beanblossom
Sherman Lawrence Black
Helen Talbott Bullard
Ileen Bullis
†Evelyn Temperance Carus
Candace Orene Caton
Electa Clithero
Marguerite Elizabeth Clyne
Ila Eloise Coombe
Louise Elizabeth Curtice
Teresa Pauline Dunn
†Marjorie Florence Emmons
Eileen Erica Everett
Katrine Rushton Fairclough
Betty Glover Funsten
Vera Marian Gerwin
Marjorie Buell Haight
Cora Mae Hall
Marian Lila Hartwell
*Lettie De Voe Holbrook
Inezetta Holt
†John Gaylord Howes
Cora Viola Humphry
†Edith May Hutchinson
Irene Evelyn Jameson
Miyozo Kusonoki
Jean Ward Long
†Lydia Long
†Gladys Laverne Lovering
Rose Vibiana McGonigle
†Ramona McKendry
Evelyn Morse

†Ruth Price
†Marjorie Antoinette Sayre
Callie Sutherland Smith
Edna Adele Stearns
Martha Tulloch
Sarah Katherine Voris
†Elizabeth Mayo Wheeler

ECONOMICS

William David Bower
†Anna Laura Bradley
Samuel James Campbell
Neoma Check
Strabo Vivian Claggett
William Pettigrew Darsie
Cyrus Asa Dimon
Thomas Laffayette Dyer
Noel Condiff Edwards
Felix Flügel
Eric John Lawson Gibson
Carol May Green
Hazel Elizabeth Green
Arthur Gainsford Halm
Hal Calvin Harding
Henry Ray Hoffman
†Henry Christian Huiskamp
†Walter Foster Johnston
Joseph Horton Kile
Wendell Everett Larson
Alice Leithold
Lester Warren Lewis, Jr.
Herbert Melville Lough
†Robert Levi McDaniel
Harold Metcalf McKnight
Loche Morton Maurer
Glen Henry Mitchel
Herman Lincoln Reid
Justus John Schmidt
Allan Morgan Standish
Frank George Strohauer
Zebulan Alexander Terry
Mitsuji Tsuzaki
Helen Vail

PRE-LEGAL CURRICULUM

Laurel Edwin Anderson
Ralph Emmett Bach
Frank Baker Belcher
William Brace
Vernon Mars Brydolf
Otis Henry Castle
Carlos Cooper Close
†Joseph Paul Cottrell, Jr.
Floyd Wellesley Cowan
Alexander Woolfolk Davis
Charles Skinner Davis
Carl Edwin Day
†Frederick Leland Foster
Norman Du Gard French
George Heynemann
Clarence Sylvester Hill
†Joseph Duke Hurd
Faber Laine Johnston
William Anthony Logan
Cyril Clyde Lotz
James Ernest Peebles
†Francis Price
Richard Evan Roberts
Sidney Joseph Winter Sharp
Forrest Edwin Single
Walter Henry Stammer
*Eugene Earl Tincher
*Paul Philip Ward
James Earl Woolley
Elmer Thomas Worthy
Stanley Colin Young

GRAPHIC ART

Mildred Douglas Carr
Birge Malcolm Clark
Harriet Ruth Crandall
Lona Evelyn Ellis
Florence Gamble
Grace Eleanor Gulling
Edle Carolyn Williams

MATHEMATICS

Anna Ruth Barker
Rutherford Erwin Gleason
Hazel Stevenson Goss
Marbry Thurber Henning
Rachel King
†Christine Madison
Edna Plummer
Mildred Sutherland Powers
Annie May Swing

PHYSICS

Florella Kelso Finney
Alma Anita Haub

CHEMISTRY

†Fred Lindley Brainerd
George Albert Connell
John McKee Dodd
Bertram Ray Dunham
Howard McKee Elsey
Marjorie Greene Foster
Frank Jacob Gard
†Helen Porter Gober
Winfred Rawdon Goddard
*Guy Wilfred Jordan
Neil Preston Moore
William Henry Preisker
Herbert C. Rowe
Lloyd Lincoln Stewart
†Walter K. Watanabe
Frederick Bradshaw Watkins

BOTANY

Margaret Brooks Coover
Harriette Lucile Morin
Beula Jane Neel
Myrtle Nina Paulson
Emily Joyce Waud

PHYSIOLOGY AND HISTOLOGY

Claire Mabel Barbat
George Long Barry
Donald Cass
Herbert Samuel Chapman
†George Willis Cline
Mary Monica Donovan
Eva Lillian Durgin
Rubie Mae Durgin
Alfred Hjalmar Ehrenclou
Mabel Consuelo Finney
Marion Reginald King
Kay Jiro Kitagawa
George Wilber Millett
Frank Roy Stewart Missner
Ethel Owen
†John Edwin Paulson
†Timothy Thomas Shea
*Irene Amanda Tognazzini

ZOOLOGY

Elizabeth Grace Fisher
†Hilda Hempl
Kathleen Grace Henningsen
Leslie Sutherland Tulloch

ENTOMOLOGY AND BIONOMICS

Edward Augustus Cornwall

GEOLOGY AND MINING

†Arthur Warren Ambrose
Douglas Clark
†Charles Edward Clowe
Warren Gosselin Cooper
†Louis Courtney Decius
†Frederick Brodie Forbes
†James Hyde Forbes
†Wendell C. Hammon
George Robert Hilby
John Berdell Hunley
*Henry Stephens Lyne
Silvius Frederick Pellas
†James Chandler Ray
†Herbert Stone
Thomas Norton Turner

CIVIL ENGINEERING

Futoshi Arakawa
Roland Roy Blase
*Charles Newman Blood
Harold Chester Boyd
Comer Pitts Brown
Ralph Waldo Brown
Erroll Preston Campbell
Joel Bean Cox
Jesse J. Philips Dunnagan
Charles Leslie Foulke
Albert Frederick Garlinghouse
William Winslow Glass
*William John Goodwin
Jesse Ernest Hayes
Carl Oscar Isakson
Julian Riette Jack
William David Lewis
Apau Paul Low
Harry Lewis McCready
George E. McKay
Rheinier Ivan Meyerholz
Ralph Cather Myers
†David Lee Narver
Herbert Lee Niebel
George Wallace Null
Louis Olsen
Jay Willard Richdale
Arthur Charles Sandstrom
Henry Joseph Schilling
Earl Theodore Scott
Carl Raymond Shaw
Charles Raymond Swanson
Earl Charles Thomas
Hubert Hudson Wagner
James Paschal Weeks
Stephen Knight Whipple, Jr.
Ralph Warren Whitaker
Sumner Paddock Wing
Charles Hyde Wollaston
†Robert Strong Worthington
†Malcolm Phillip Youker

MECHANICAL ENGINEERING

Boynton Morris Green
†Harold Arthur Hackett
Harry Sumner Houghton
Rowland Bryant Johnson
†Chauncey Tennent Keefer
†Edward Lawrence Peck

ELECTRICAL ENGINEERING

Rupert Burke Andrews
†Walter Marion Argabrite
Leonardo Money Bussert
Charles Arthur Cole
Lewis Brown Erwin
David Lloyd Evans, Jr.
Charles Havens Green
Warren Hastings
Shigehito Horiuchi
†Paul Clarendon McCorkle
Paul Boole McKee
William Daniel Marich
Yuichi Nakamura
Ralph Edward Richards
Harold Nelson Walker
George Osborne Wilson

BACHELOR OF LAWS

Kasper Lener
James Garfield Marshall
*Randolph Spelman Sizer

MASTER OF ARTS

GREEK

Mabel Adella Brekke, A. B.

LATIN

Dorothy Culp, A. B.
Frances Anna Gower, A. B.
Carl Melvin Hansen, A. B.
(Luther College)
Gladys Amiel Peck, A. B.
Jerome Willis McNair, A. B.
(Hamilton College)
Jacob Casper Shamberger, A. B.
(Western Maryland College)

GERMAN

†Otto Koeb, B. S.
(University of California)
*Norbert Scheele, A. B.

ROMANIC LANGUAGES

Matilda Florence Allen, A. B.
(University of New Mexico)
George Louis Lawrence, A. B.
Isabel Venard, A. B.
(Smith College)

ENGLISH LITERATURE

James Maxwell Anderson, A. B. (University of North Dakota)
May Jacqueline Butler, A. B.
Lieurena Cole Greenfield, A. B.
Frank Ernest Hill, A. B.
Fanny Caroline Moore, Ph. B. (Syracuse University)
Eileen Margaret Roxburgh, A. B.
*Mary Louise Shook, A. B. (Wilson College)
Esther Victoria Sundstrom, A. B. (Bethany College)
Ola Elizabeth Winslow, A. B.

EDUCATION

†Emma Elizabeth Blauer, A. B.
Roy Wade Bridgman, A. B.
Otha Harrison Close, A. B.
*Marvin Lloyd Darsie, B. S. (Hiram College)
J. Harold Williams, A. B.
Neva Lillian Galbreath, A. B. (Indiana University)
Grace Lyman, Ph. B. (University of Chicago)
Wilford Ebenezer Talbert, A. B.

HISTORY

Frank Elliott Barrow, A. B.
Mary Louise Herron, A. B.
Hettie Alice Withey, A. B.

ECONOMICS

Mabel Newcomer, A. B.

PHYSICS

Herbert Rovell Benham, A. B.
Bertha Blanchard Howell, A. B. (Northwestern University)

CHEMISTRY

David Bruce Dill, B. S. (Occidental College)
†Edwin Reginald Harding, A. B.
John Walter Jones, A. B.
Hugh Harold Mosher, A. B.
Zeno Ostenberg, A. B.
Ruth Seeley, A. B.
William Irvin Weaver, A. B.

BOTANY

Mabel Elizabeth Dibell, A. B., A. M. (Western College; University of Illinois)
Frank Jason Smiley, A. B.

ZOOLOGY

Faith A. Swift, A. B.

ENTOMOLOGY

Arthur Dickie Borden, A. B.

GEOLOGY

†Clarence Almon Waring, A. B.

METALLURGY

*Bhupendra Nath Ray, B. Sc.
(University of Calcutta)

ENGINEER

CHEMICAL ENGINEERING

Robert Lindley Murray, A. B.
Francis Sitwell Pratt, A. B.

MINING

Robert Edwin Anderson, A. B.
Waldemar Fenn Dietrich, A. B.
Arthur Bixio Peckham, A. B.

CIVIL ENGINEERING

Charles Edward Beecher, A. B.
Charles Newman Blood, A. B.
George Walter Hunt, A. B.

MECHANICAL ENGINEERING

Robert Long Daugherty, A. B.
†Augustus Mudge Sanborn, A. B.

ELECTRICAL ENGINEERING

Linford C. Lull, Jr., A. B.
†Morris Wenk, A. B.

JURIS DOCTOR

Chester Le Roy Coffin, A. B.
John Allen Davis, A. B.
Charles Wagner Dooling, A. B.
Henry William Funke, B. S.
(Hastings College)
James William Henderson, A. B.
Gail Carhart Larkin, A. B.
†Robert Justin Miller, A. B.
†Merle Ellsworth Mitchell, A. B.
Fred Eugene Pettit, Jr., A. B.
(University of Kansas)
UrbanAlexanderSontheimer, A.B.
L ster Douglas Summerfield, A.B.
Eugene Earl Tincher, A. B.
Leland Harrison Walker, A. B.
Martin Luther Ward, Jr., A. B.
James Earl Woolley
Stanley Colin Young

DOCTOR OF MEDICINE

Emmett James Brady, A. B.
Edward Guilford Cary
Elizabeth Ely Goodrich, A. B.
(Vassar College)
George Lewis Hagman, B. S.
(Purdue University)
Grace McCoskey, B. S.
(McMinnville College)
George Carl H. McPheeters, A. B.
Jean Redman Oliver, A. B.
John Floyd Pruett, A. B.
Alfred L. Camille Siefert, A. B.
Herbert Rowell Stolz, A. B.
Georgia Emily Thompson, A. B.
Orel Alvin Welsh, A. B.
(University of Oregon)

DOCTOR OF PHILOSOPHY

ENGLISH PHILOLOGY

Arthur Garfield Kennedy, A. B., A. M.
(Doane College; University of Nebraska)

HISTORY

†Mary Wilhelmine Williams, A. B., A. M.

ECONOMICS

Donald Frederick Grass, A. B., A. M.
(Harvard University)

CHEMISTRY

George Shambaugh Bohart, A. B., A. M.
John Dustin Clark, B. S., M. S.
(New Hampshire College)

FELLOWS AND SCHOLARS

Thomas Welton Stanford Fellowship in Psychic Research

John Edgar Coover . . . . . Stanford University
A. B., Stanford, 1904, A. M., 1905, Ph. D., 1912.

Buckel Fellowship in Education

J. Harold Williams . . . . . Ainsworth, Nebraska
A. B., Stanford, 1913, A. M., 1914.

Alumni Jordan Scholarships in Medicine

Clement Harisse Arnold . . . . . Palo Alto
A. B., Stanford, 1910.

Cylde T. Wetmore . . . . . Hollister
A. B., Stanford, 1913.

Harry Alphonso Wyckoff . . . . . San Francisco
A. B., Stanford, 1907.

Law School Scholarship

Edgar Clarence Smith . . . . . Azusa
A. B., Stanford, 1913.

Bernard Scholarship in Entomology

Robert Kingston Vickery, '16 . . . . . Saratoga

Leland Stanford Junior Memorial Scholarship

Sigurd von Christierson, '17 . . . . . San Jose

W. J. Dickey Scholarships

James Clarke Berry, '18 . . . . . Selma

Norman Jerome Mittenthal, '16 . . . . . Fresno

Joseph Bonnheim Memorial Scholarships

Joseph Goldstein, '18 . . . . . Sacramento

San Francisco Harvard Club Scholarship at Harvard University

Frank Jason Smiley . . . . . Fresno
A. B., Stanford, 1913, A. M., 1914.

Rhodes Scholarships at Oxford University

Emil Frederic Hollmann . . . . . Oakland
A. B., Stanford, 1911.

DIRECTORY OF STUDENTS

Name; home residence; major subject; status; University residence; post-office. Post-office in all cases *Stanford University* except where university residence is followed by initial letter of town ('p' indicates *Palo Alto* post-office; 'Mayfield-m,' *Mayfield* post-office, etc.) Street address *Palo Alto* or *Campus* unless otherwise named.

Status.—gr., graduate student; sp., special student; unc., unclassified. law. The figures after major subject indicate the number of units of university work completed (and counting toward the 120 units required for graduation), no account being taken of 'deferred,' 'incomplete,' or 'conditioned' work. The star (*) indicates registered *in absentia;* the dagger (†) indicates unadjusted standing from other colleges and universities. (Phys.-Physics; Phyl.-Physiology.)

The superior number [1], prefixed to the name of a student indicates registration for the first semester only; [2] indicates second semester only.

Abel, Edson Cronk	Monrovia	Law gr.,	85 Encina
A. B., Stanford, 1913.			
Adams, Earl Clinton	San Jose	Law 71,	Delta Tau Delta
Adams, James Douglass	Stanford Un.	Law 109,	9 Alvarado
[1]Adams, Paul Coleman	Portland, Ore.	PreL. 28,	Phi Kappa Psi
Adams, Philip Van R.	Denver, Colo.	Engl. 45,	133 Encina
Adams, Robert Gemmell	Oakland	C. E. 122,	Beta Theta Pi
Adams, Sidney Francis	Stanford Un.	Geol. 44,	9 Alvarado
Adams, Walter Crawford	Lodi	Med. gr.,	2102 Bush, SF-sf
B. S., Michigan, 1914.			
Addleman, Clarence Lloyd	Acton, Ind.	M. E. 113,	219 Ramona-p
[2]Adriano, Alfredo P.	Malolos, P. I.	Ent. †,	33 Salvatierra
Ainslie, Charles Albert	Danville	Med. gr.,	2102 Bush, SF-sf
B. S., California, 1913.			
Akin, Frances Berto	Atlanta, Ga.	Eng. 105,	KappaKappaGam.
Albee, Helen Virginia	Eureka	Phyl. 65,	81 Roble
Albrecht, L. Dorothy	Los Angeles	Educ. 76,	Kap.Alpha Theta
Alderson, Edwin Lyle	San Diego	Law 106,	Beta Theta Pi
Alderson, Elizabeth H.	San Diego	Engl. 75,	Pi Beta Phi
Alderton, Barbara	Palo Alto	Germ. 83,	Pi Beta Phi
Alderton, Henry Arnold, Jr.	Palo Alto	C. E. 12.	Phi Gamma Delta
Alford, Herbert Lindsay	Medford, Ore.	M. E. 4,	Theta Xi
Allcutt, Chester Thorne	Pasadena	E. E. 106,	4 Lasuen
Allen, Anita	Palo Alto	Germ. 49,	Delta Gamma

Allen,ClarenceEmir, Jr. SaltLakeCity,U. Law gr., 21 Salvatierra
A. B., Yale, 1913.
[1]Allen, Fred Cruickshank Bakersfield Law sp. unc. 59, Delta Chi
Allen, Niel Richardson GrantsPass,Ore. PreL. 15, 119 Encina
Allen, Verner Los Angeles Econ. 1, 363 Melville-p
Allum, Ruth Alice Riverside Span. 69, Langworthy Club
Altimus,MedranJefferson CentralPt.,Or. PreL. 12, 1015 Forest Ct.
[1]Alton, Tom Charles, Jr. San Mateo Hist. 40, San Mateo-sm
[1]Ambrose, Arthur Warren Lockeford Geol. gr., 127 Encina
A. B., Stanford, 1914.
[1]Ament, Charles Dana Grants Pass, Ore. Min. 6, 2 Lasuen
Ames, Elmer Ruel Stockton C. E. 35, 184 Encina
[2]Ames, Katherine Elizabeth Los Angeles Engl., 6 Roble
Amphlett, Janet Edyth San Mateo Hist. 9, San Mateo-sm
Anderson, Adrien Louis San Francisco M. E. 69, Delta Tau Delta
Anderson,Clarence Sherman San Diego Law 102, 71 Encina
Anderson, Emil Shirley Los Angeles M. E. 40, 89 Encina
Anderson, Frank Julius Vallejo Chem. 85, 96 Encina
Anderson, George Harold Elko, Nev. Phyl. 45, 420 Everett-p
Anderson, Grace Knight Winslow, Ariz. Math. 107, 15 Madrono
Anderson, Howard Salsbury San Jose Law 105, Kappa Sigma
[2]Anderson, Laura Patricia C. Venice Engl., Madrono
Anderson, Laurel Edwin Burlingame Law gr., Burlingame-b
A. B., Stanford, 1914.
Anderson,MinervaM. Regina,Sask.,Can. Lat. 75, 50 Roble
Anderson, Thos.Harllee Statesville,N.C. Eng. †8, Kappa Alpha
Andresen, Christian A. ClaraCity,Minn. Med. gr., 22 Lasuen
A. B., Carleton, 1914.
Andrews, Ellen Louise Los Angeles Hist. 75, Kappa Kappa Gam.
Andrews, Esten Randolph Santa Clara Phyl. 106, 1267 Fkln., SC-sc
Andrews, Fred Page Tacoma, Wn. M. E. 26, Delta Upsilon
[1]Andrews, Helmus Weddel San Diego Law 122, Kappa Alpha
A. B., Stanford, 1915.
Andrews, Ruth Long Beach Graph. †10, Delta Gamma
Andrus, Carlton Leverett San Jose Med. gr., 2418 Wash., SF-sf
A. B., Stanford, 1915.
Angell, Thomas Bayard Palo Alto Greek 96, 1200 Bryant-p
Anspach, Wilmur Claire Riverside PreL. 51, 45 Encina
[2]Anthony, Arthur Bruce Sunnyvale Econ. †, Sunnyvale-s
Antrim, Hugh Seymour, Jr. Cairo, Ill. Phyl. 16, Theta Delta Chi
[1]Aoyama, Tetsushiro Ibaraki, Japan Ent. †3, 733 Ramona-p

Argall, Leland Stanford	Spokane, Wn.	Law 115,	Cardinal Club
Armstrong, Guy O.	Calgary, Alb., Can.	M. E. 9,	567 Lincoln-p
Armstrong, Myrl B.	Calgary, Alb., Can.	Phyl. 13,	567 Lincoln-p
Arnold, Clement Harrisse	Palo Alto	Med. gr.,	418 Waverley-p
A. B. Stanford, 1910.			
Arnold, Edward Wellingham	Riverside	PreL. 15,	Kappa Alpha
Arnott, John David	Palo Alto	C. E. 101,	Mayfield-m
Arrants, Annie	Selma	Greek 104,	211 Byron-p
Asami, Goichi	Honolulu, T. H.	Phyl. 43,	1153 Cowper
[2]Ashford, Harry Thomas	Redwood City	Educ. 49,	Redwood City-r
Ashton, Harold Booth	San Jose	M. E. 14,	Museum
Atkinson, Doris	Palo Alto	Educ. 23,	459 Hamilton-p
Aubert, Louisette Marie	San Mateo	Chem. 84,	Burlingame-b
Aupperle, Harold Vincent	Grand Jct. Colo.	Econ. 43,	Phi Gamma Delta
Aurell, Verner Christensen	Turlock	Econ. 16,	14 Salvatierra
Austin, Charles Alphin	Berkeley	C. E. 22,	Theta Delta Chi
Austin, Leslie Wentworth	San Jose	Chem. 46,	107 S. 19th, SJ-sj
Auzerais, Phyllis Madeleine	Atherton	Hist. 14,	Kappa Kappa Gam.
Averill, James Paul, Jr.	Portland, Ore.	PreL. 27,	Sigma Nu
Avery, Harold Tolman	Oakland	C. E. 140,	142 Encina
[2]Azevedo, John Anthony	Sacramento	Phyl.,	202 Bryant-p
[2]Azevedo, Manuel Leal,	Sacramento	Phyl.,	202 Bryant-p
Babcock, Thomas Folger	Oakland	M. E. 41,	Delta Tau Delta
Bacon, Clarence W.	Cook	PreL. 16,	310 High-p
Bacon, Ellard Ansel	Oakland	M. E. sp. 79,	Theta Delta Chi
Bacon, John Andrew	Los Angeles	Econ. †9,	Theta Delta Chi
Bacon, Ruth	San Jose	Zool. 41,	Gamma Phi Beta
Bacon, William Cyril	Cando, N. D.	Law gr.,	Sigma Chi
A. B., North Dakota, 1913.			
[1]Baier, Harry Howard	Columbia	Law sp. unc. 74,	185 Encina
Bailey, Margery	Palo Alto	Engl. gr.,	207 Hawthorne-p
A. B., Stanford, 1914.			
Baily, Sarah Elizabeth	Sac City, Ia.	Eng. 79,	20 Madrono
Baiocchi, Adolph John	San Jose	Med. †12,	64 Union, SJ-sj
A. B., Santa Clara, 1914.			
[1]Baker, Joseph Westwood	Palo Alto	Chem. 16,	909 Alma-p
Baker, Milton Palmer	Los Gatos	M. E. 88,	129 Encina
[2]Baker, Robert Lynn	Dalton, Ga.	PreL. 6,	Phi Kappa Psi
Baker, William Elliott	San Jose	Educ. gr.,	371 S. 13th, SJ-sj
A. B., Stanford, 1914.			
Baldwin, Andrew Edward	Los Angeles	Phyl. 12,	Beta Theta Pi

Baldwin, Beth Salt Lake City, Utah Hist. 106, Delta Gamma
Ball, Hazel Myra San Jose Engl. gr., Langworthy Club
A. B., Stanford, 1915.
Bandini, Elliott Los Angeles C. E. 78, Chi Psi
Barbat, Claire Mabel San Francisco Med. gr., 2323 Wash., SF-sf
A. B., Stanford, 1914.
Barber, Allyn Harshel Los Angeles PreL. 16, Zeta Psi
Barker, Anna Ruth Modesto Span. gr., 19 Madrono
A. B., Stanford, 1914.
Barker, Charles Abner Palo Alto Law 84, 975 Hamilton-p
Barker, Chester Wing San Jose Eng. 15, Encina
Barker, Earle Wright San Jose Educ. 97, 319 Middlefield-p
Barnard, Walter E. Worcester, Mass. Educ. gr., Phi Gamma Delta
A. B., Stanford, 1913.
Barnes, Leonard Stanford Compton PreL. 12, 542 Cowper-p
Barnes, Manton Muhleman Monrovia M. E. 26, 25 Encina
Barnes, William Hutt Stanford Univ. Med. 108, 19 Lasuen
Barney, Earle Sevier Union City, Tenn. Hist. 79, College Terrace
Barnhouse, Alice Naomi Watsonville Germ. †15, 56 Roble
Barr, Remington Bellefourche, S. D. M. E. 46, Theta Xi
Barry, George Long San Jose Med. gr., 2418 Wash., SF-sf
A. B., Stanford, 1914.
Barry, Wm. Taylor, Jr. SantaBarbara Engl. 91, 140 Encina
Barshinger, Byron Walter Gilroy Chem. 115, 57 Encina
Bartholomew, Richard Denver, Colo. Bot. 35½, 4 Salvatierra
Barton, Lorenzo James San Mateo Chem. 22, CrystalSps., SM-sm
Baruch, Frederick, Jr. San Francisco Law 105, 50 Encina
[2]Barzen, Alva Emrick Pasadena Econ. 108, The Lodge
Bassett, Thomas E. Palo Alto Geol. sp. 25, 332 Channing-p
Bassett, Winona Pasadena Econ. 110, Pi Beta Phi
Batchelder, Albert Perkins Palo Alto Ent. 8, 222 Hawthorne-p
Batcheller, Harry C. C. Los Angeles Hist. 13, Phi Kappa Psi
Batcheller, Helen May Los Angeles Hist. 108, Gamma Phi Beta
Bateman, Fred Ward Salida, Colo. Econ. 9, Phi Delta Theta
Baumgartner, Frank Leroy San Jose PreL. 48, Sigma Nu
Beach, Philip S. Palo Alto M. E. †35, 835 Waverley-p
Beach, Rofena Maude San Jose Lat. 37, Pi Beta Phi
Beal, Carl H. Palo Alto Geol. gr., 243 Byron-p
A. B., Stanford, 1913.
Beal, Edgar Reed Los Angeles Econ. 29, 49 Encina
Beamer, Josepha Helen Redlands Germ. 74, Delta Gamma

[1]Beard, Hawley Wetmore	San Francisco	M. E. sp. 33,	184 Encina
Beaver, George Lovell	Palo Alto	E. E. 118,	475 Forest-p
Beaver, Mary Ann	Palo Alto	Hist. 45,	475 Forest-p
Beaver, Mildred	Palo Alto	Hist. 15,	475 Forest-p
Becherer, WalterF.W.	Milwaukee,Wis.	PreL. 41,	Delta Tau Delta
[2]Beck, Albert Conrad	Los Angeles	Geol. †	1452 Jackson,SF-sf
[2]Beck, Paul Ward, Jr.	Benicia	Math.,	Encina
Bedeau, Grover William	Marysville	Law 95,	71 Encina
Beebe, Henry Clare	Ashland, Ore.	Geol. 75,	Theta Xi
Beebe, Mary Josephine	Woodland	Hist. 89,	26 Roble
Beeson, Joseph Josiah	Los Angeles	Geol. 68,	36 Encina
[1]Behrens, Earl Charles	Redding	Law 122,	74 Encina
Behrens, Luella Eva	Redwood City	Psych. 88,	GammaPhiBeta
Beidler, J. Francis	Hinsdale, Ill.	Econ. 11,	17 Salvatierra
Bell, Gollin	San Francisco	M. E. 79,	Theta Xi
Bennett, Byrona Eliza	San Jose	Zool. 60,	Roble
Bennett, Edwin Oliver	Los Angeles	M. E. 40,	97 Encina
Bennett, James William	Palo Alto	Engl. 77,	11 Salvatierra
Bennett, Paul Morphy	Phoenix, Ariz.	C. E. 52,	Delta Upsilon
Bensinger, Harrold J.	Los Angeles	Chem. 12,	Kappa Sigma
Bentley, Bessie Geneva	Palo Alto	Graph. 40,	635 Homer-p
Bentley, Georgia Helen	Palo Alto	Bot. 99,	635 Homer-p
[1]Bentley, Ruth Mary	Palo Alto	Fr. 13,	635 Homer-p
Benton, Anna Laura	Palo Alto	Span. 76,	522 Emerson-p
Berbert, Henry	San Mateo	C.E. 95,	129ClarkDr.,SM-šm
Bergstrom, Francis Wm.	Stanford Un.	Chem. 14,	25 Salvatierra
de Bernardi, Alyssa	Santa Rosa	Span. 78,	Madrono
Berry, Hortense Louise	Oakland	Fr. 16,	Alpha Phi
Berry, James Clarke	Selma	M. E. 14,	4 Encina
[1]Best, Neil Orrin	Monterey	Educ. 128,	58 Encina
A. B., Stanford, 1915.			
Best, Raymond Eugene	Riverside	Phys. 87,	359 Emerson-p
[2]Bettannier, Leo Claudy	Pasadena	Geol.,	Encina
[2]Bettin, George Theodore	RedwoodCity	Educ. sp.,	Redwood-r
Bevan,CharlesFrederick	Baltimore,Md.	M. E. 74,	The Lodge
[2]Bevier, George, Jr.	Spokane, Wn.	Med. gr.,	129 Encina
A. B., Stanford, 1912.			
Beyrle, Thomas	Los Angeles	Econ. 39,	Kappa Alpha
Bickel, Reddick Homer	San Francisco	C. E. 49,	Cardinal Club
[2]Biggar, Margaret May	Hollywood	Engl. †,	10 Roble
[2]Bigler, E. Montell	Palo Alto	M. E.,	534 Channing-p

Bihlman, George Herman Live Oak Ent. 27, 110 Encina
[1]Bingham, Beatrice J. Los Angeles Eng. gr., 505Embarcadero-p
A. B., Stanford, 1914.
Bird, Alice Irene Monrovia Zool. gr., 705 Cowper-p
A. B., Ohio Wesleyan, 1905.
Bird, Frank Stanley Montpelier, Ida. C. E. 45, 359 Emerson-p
Bishop, Walter Santee Law 65, 4 Lasuen
Black, Floyd Davidson Palo Alto Law gr., 804 Bryant-p
A. B., Kansas, 1913.
Black, Lewis Pitt Monrovia Law 77, 85 Encina
Blackinton, Fred Stanford Glendale Econ. 30, 187 Encina
Blaisdell, FrankEllsworth SanFrancisco Phyl. 13, 1520 Lake, SF-sf
Bland, Reba San Jose Ent. 108, Alpha Omicron Pi
Blase, Roland Roy No. St. Paul, Minn. C. E. gr., 943 Scott-p
A. B., Stanford, 1914.
Bleecker, Robert Boynton Pasadena Econ. 57, Delta Upsilon
[1]Blickhahn, Eaton Corona Chem. 18, 10 Encina
Bliss, Anna Earlville, Ill. Germ. gr., 54 Roble
A. B., Stanford, 1914.
Blodget,WardBelnap HuntingtonBeach C. E. 100, 191 Encina
Bloeser, William Hargrave Los Angeles Ent. 109, 1100 Bryant
Blote, Harold Carl Oakland Econ. 15, Sigma Chi
Blumenthal, Maurice Douglas, Ariz. Law 74, 82 Encina
Blunt, Clair A. Charles City, Ia. Econ. 16, Sigma Chi
Boal, Marian Dickinson National City Hist. 65, Alpha Omicron Pi
[2]Bocks, Marion Elise Cupertino Graph., Cupertino-c
Bodley, Edith May Palo Alto Engl. gr., 35 Roble
A. B., Stanford, 1914.
Boehm, Herbert Carl Los Angeles Engl. 9, 1134 Emerson-p
Boesch, Claribel Ruth San Jose Bot. 83, 188 Bryant-p
Boezinger, Agnes Sophie Palo Alto Germ. 21, 176 Bryant-p
Boezinger, Amelie E. Palo Alto Graph. 73, 176 Bryant-p
Boezinger, Frank Palo Alto C. E. sp. 141, 176 Bryant-p
Bol, Cornelius Meerkerk, Holland Phys. gr., College Terrace
B. S., Montana, 1914.
Bolinger, Donley Orange PreL. 16, 4 Lasuen
Bolter, Lemuel Rose Logan, Ia. Econ. 67, Sigma Chi
Bond, Rufus Gallatin Santa Paula M. E. 108, 420 Hamilton p
[2]Bondy, William James GreatFalls,Mont. C. E. †, Phi Gamma Delta
[2]Bonetti, Peggy Ermenia San Jose Fr., 1470TheAlameda,SJ-sj
Bongard, John Francis Angels Camp Min. 5, 10 Encina

Bonnett, Edward Mortimer Riverside M. E. 116, 12 Encina
Bonnett, William Henry Riverside Geol. 23, 12 Encina
Bontz, Conrad Kauffmann Palo Alto Min. 47, 356 Coleridge-p
Bontz, Mildred Katherine Palo Alto Lat. 15, 356 Coleridge-p
Boomershine, Edward R. Versailles, O. Math. 66, Loyola
[1]Bordwell, Helen Los Angeles Hist. 121, Delta Gamma
A. B., Stanford, 1915.
Bothwell, Charlotte L. SaltLakeCity,U. Hist. 111, DeltaDeltaDelta
[1]Boulden, Robert Levin Los Angeles M. E. 11, 332 Hanover
[2]Boulware, Edna Palo Alto Hist. 72, 170 Bryant-p
Bowes, Edwin Lawrence Pasadena Econ. 114, The Lodge
Bowes, William Ketcham Pasadena Econ. 114, The Lodge
[1]Boyd, Carleton Williams Willows Econ. 11, Theta Delta Chi
Boyd, Edwin Forrest Palo Alto Phyl-Med. 106, 318Wav.-p
Boyers, Luther Musson San Francisco Med. gr., 2519 Sacto., SF-sf
A. B., Stanford, 1912.
Boyle, Charles Emerson, Jr. Escondido Chem. 103, 635 Bryant-p
[2]Boyle, Margaret Mary Los Angeles Engl. 42, Delta Delta Delta
Boyle, Randolph Louisville, Ky. Law †3, 25 Salvatierra
Boyle, William Archdall San Rafael Med. gr., 2418 Wash.,SF-sf
B. S., California, 1914.
Braden, Joseph Ross Santa Clara Law 62, Phi Kappa Psi
Bradford, Albert Grover Eureka Law 105, Encina
Bradford, Warren Mead Placentia E. E. 115, 180 Encina
[2]Brandt, Emil Charles Pasadena C. E. 80, Delta Upsilon
Branner, George Casper Stanford Un. E. E. 139, Delta Upsilon
Brasefield, Beatrice Maddock Palo Alto Greek 38, 552 Everett-p
Brekke, Mabel A. Los Altos Greek gr., Los Altos-l
A. B., Stanford, 1913, A. M., 1914.
[1]Breuner, John, Jr. San Francisco Law 120, Sigma Nu
A. B., Stanford, 1915.
Bridgers, Alice Irene Imperial Engl. 11, 5 Cabrillo
Brier, Edward Blake Los Angeles C. E. gr., 245 Ramona-p
A. B., Occidental, 1913.
[2]Briggs, Alfred Poyneer Los Angeles Chem. gr., Delta Tau Delta
B. S., Colorado, 1912.
[2]Briggs, Alice Hollywood Econ. 108, Pi Beta Phi
Briggs, Gladys Watson Santa Ana Engl.100, KappaAlphaTheta
Briggs, Otis Emmons Orange Geol. 39, 20 Encina
[1]Briggs, William Arthur, Jr. Hollywood PreL. sp. 5, DeltaKappaEp.
Brinkmeyer, Henry, Jr. Prescott, Ariz. C. E. 91, 157 Encina

Brix, Emma Marguerite Fresno Germ. 59, Langworthy Club
Brooke, Philip Slaughter Spokane, Wn. Law 109, Phi Kappa Psi
Brooks, Ruth San Jose Greek 23, Pi Beta Phi
Brown, Claude Everett San Francisco Med. gr., 2320 Clay, SF-sf
A. B., Stanford, 1914.
Brown, Edna Marian Durango, Colo. Zool. 57, Alpha Omicron Pi
Brown, Floyd Cromwell Selma C. E. gr., 367 Forest-p
A. B., Stanford, 1913.
Brown, Kearn Babcock Brookfield,N.Y. Ent. gr., 5 Cabrillo
Ph. B., Alfred University, 1912.
[2]Brown, Lawrence W. San Francisco Econ.sp., AlexandriaHot. p
[1]Brown, Mary Ethel Palo Alto Hist. 16, 825 Channing-p
Brown, Philip Foster Reno, Nev. PreL. 13, Cardinal Club
Browne, Frances Amelia Palo Alto Graph. 15, 345 Lincoln-p
Browning, Dorothea E. Ogden, Utah Graph.104, GammaPhiBeta
Bruce, Starr Lewis San Francisco Econ. 107, 67 Encina
Brun, Otis Gorham San Francisco PreL. 25, Kappa Sigma
Brunenkant,EdwardJacob Florence,Ariz. Educ. 16, 909 Univ.-p
[2]Brunson, Claire Benton Los Angeles Econ.,
Bryan, Carleton Felton San Francisco PreL. 13, Sigma Alpha Ep.
Bryan, Miriam Alvada Napa Hist. 106, Pi Beta Phi
Brydolf, Vernon Mars San Bernardino Law. gr., Sigma Nu
A. B., Stanford, 1914.
Buffum, Harry Austin Long Beach PreL. 14, Delta Chi
Bullard, Corinne Porterville Hist. 106, AlphaOmicronPi
Bullard, Helen Talbott Los Angeles Hist. gr., KappaAlphaTheta
A. B., Stanford. 1914.
Bullis, James Stevenson Los Angeles PreL. 61, Beta Theta Pi
Bullis, Richard Omri Los Angeles Phyl. 13, Beta Theta Pi
Bundy, Florence Sorrita Redwood City Math. 82, Redwood City-r
[2]Burbank, William Freeman San Jose PreL. 68, 435 N. 3rd, SJ-sj
Burbeck, William Baldwin Stanford Un. E. E. 97, Sigma Chi
Burket, Albert Dana Glendale Phyl. †7, 2 Lasuen
Burks, Dana, Jr. Venice Graph. 16, AlphaTauOmega
[1]Burlingame, Gladys C. San Jose Engl. 120, 122 Page, SJ-sj
A. B., Stanford, 1915.
Burlingham,ErnestV. ForestGrove,Ore. Chem. †15, 9 Cabrillo
Burnand, Alphonse Adolph Los Angeles Econ. 22, Delta Tau Delta
Burns, Eugenia Stewart Sunnyvale Graph.106, KappaKap.Gam.
[1]Burns.WilliamSherman NewYork,N.Y. Law gr., Phi Gamma Delta
A. B., Stanford, 1914.

Burrell, Florence Cotton Palo Alto Ent. gr., 364 Kingsley-p
A. B., Stanford, 1910.
Burrows, Harold H. Salt Lake City, U. Phyl-Med. 94, 55 Encina
Bush, Rowena Caroline Redlands Psych. 117, Alpha Omic. Pi
Butcher, Alice Elia Santa Paula Hist. 84, Langworthy Club
[1]Butcher, William P., Jr. Santa Barbara Law gr., 181 Encina
A. B., Stanford, 1913, J. D., 1915.
Butterfield, David Rowland Palo Alto PreL. 21, 835 Middlefield-p
Cain, Ruth Salt Lake City, Utah Psych. 80 Madrono
Calderwood, Ada Imogene Palo Alto Graph. 14, 531 Cowper-p
Callanan, Joseph Ignatius San Francisco Med. †88, 2801 22d, SF-sf
A. B., St. Mary's, 1911.
Campbell, Alan Randolph Palo Alto Chem. 31, 355 Kellogg-p
Campbell, Erroll Preston Modesto C. E. gr., 53 Encina
A. B., Stanford, 1914.
Campbell, Frank Valpey San Jose Law 104, Delta Chi
[2]Campbell, Harry Archibald Santa Cruz Geol. 8, 153 Encina
Campbell, Jean San Francisco Hist. 14, Kappa Alp. Theta
[2]Campbell, Leon George Pasadena Phyl. 54, Zeta Psi
Card, John Lockhart Palo Alto Chem. 12, 764 Channing-p
Card, Thomas Adam Palo Alto Phyl-Med. 107, 764Chan'g-p
[2]Carll, Lotta Waldo Billings, Mont. Engl. 72, 931 Willow, SJ-sj
Carlton, Dave Pierce Riverside Geol. 113, Theta Xi
Carnes, Grover Cloe Dewitt, Ark. Law 100, 22 Lasuen
[2]Carney, MaryFlorence Springdale, Mont. Hist. †, Delta Gamma
Carr, Brenton Stanley Los Angeles Econ. 91, Kappa Sigma
Carr, Mildred Douglas Alhambra Graph. gr., Pi Beta Phi
A. B., Stanford, 1914.
Carroll, Daniel Brendan Sydney, Aus. Geol. 55, Sigma Alpha Ep.
Carroll, Frederick H. Las Cruces, N. M. PreL. sp. 41, Sigma Chi
Carter, Rae Best Modesto PreL. 11, 4 Salvatierra
[1]Cartwright, Horace Alfred Oregon, Ill. M. E. 7, 359 Emerson-p
Cartwright, James H., Jr. Oregon, Ill. Econ. 105, 161 Encina
[2]Carus, Evelyn Temperance Gridley Hist. gr., 515 University-p
A. B., Stanford, 1914.
[1]Carus, Hazel Gertrude Palo Alto Zool. 55, Mariposa Club
Cary, Irwin Denver, Colo. Econ. 96, Sigma Chi
Casad, Elizabeth Gail Oakland Hist. 80, Roble
Case, Walter Mackay San Francisco Hist. gr., 5 Cabrillo
A. B., College of Pacific, 1914.
Casey, Elizabeth Wilmette, Ill. Span. gr., 364 Kingsley-p
Ph. B., Chicago, 1906.

[2]Caskey, Margaret Stuart Tacoma, Wn. Hist., Castilleja-p
Cass, Donald South Pasadena Med. gr., 2418 Wash., SF-sf
A. B., Stanford, 1914.
Cass, Quincy South Pasadena Law 67, Zeta Psi
Cassady, Loyd Herbert Whiting, Ia. Econ. †9, Sigma Nu
Castle, Otis Henry Pasadena Law gr., Delta Chi
A. B., Stanford, 1914.
Caton, Candace Orene Concordia, Kas. Hist. gr., 4 Roble
A. B., Stanford, 1914.
Cattell, Anna Ashburner San Francisco Hist. 10, 509 Hale-p
[2]Caughey, Edgar Reginald Ukiah PreL., Encina
Cavanaugh,CatharineAnn Detroit,Mich. Educ. 57, 454 Forest-p
Cecil, Warren W. Modesto C. E. sp. 15, 199 Encina
Chace, John Derrol San Jose Law 75, Delta Kappa Ep.
Chaffee, Frank Everett Pasadena Zool. 98, Sigma Alpha Ep.
Chalfant, George Preston Boise, Ida. Law 117, 185 Encina
Chamberlain, Mary Bufink Palo Alto Educ. gr., 319 Alma-p
A. B., Indiana, 1898.
Champion, Grace Colton Hist. 107, Langworthy Club
[2]Chandler, Constance Los Angeles Engl., Alpha Omicron Pi
Chandler, Loren Roscoe Fresno Phyl. 14, 627 Bryant-p
[2]Chang, Wei Ju Peking, China Chem., 318 Emerson-p
[1]Chapin, Harold Addison San Jose Geol. sp. 73, 139 Encina
[2]Chapman,CharlesMcDowell SantaRosa Hist., 2 Lasuen
Chapman, Herbert Samuel Clayton Med. gr., 2005 Calif.,SF-sf
A. B., Stanford, 1914.
Chapman, John Frye Redlands Med. gr., 2418Wash.,SF-sf
A. B., Stanford, 1909.
[2]Chapman,LawrenceLafayette SantaRosa Hist., 2 Lasuen
Chapman, Sherwood San Francisco Engl. 58, Kappa Alpha
Chapman,WayneChester Pendleton,Ore. PreL. 38, Sigma Alpha Ep.
Chappel, Donald M. Batavia, N. Y. Econ. 108, 11 Salvatierra
Chase, Frank Forrester Los Angeles PreL. 6, Sigma Alpha Ep.
[1]Chase, Wheeler Forrester Los Angeles Graph. 7, Sigma Alpha Ep.
[2]Chiles, Chester Arthur Ellensburg,Wn. Educ. 60, Stanford Inn
Chislett, William, Jr. Los Angeles Lat. gr., 20 Lasuen
A. B., Stanford, 1910, A. M., 1912.
Choate, Nellita Naomi Los Angeles Engl. 47, KappaKappaGam.
Christensen,AlbertEugene Audubon,Ia. C. E. 74, 75 Encina
Christensen, Earnest Stephen Pasadena Geol. †7, AlphaTauOmega
von Christierson, Sigurd San Jose Phyl. 51, 108 Encina
Chu, Neu Chun Canton, China Econ. 107, 635 High-p

Chuck, Yoong Se	Shanghai, China	Econ. 110,	318 Emerson
Clancy, Gertrude Margaret	Riverside	Hist. 81,	Pi Beta Phi
Clark, Alvan Witcombe	San Jose	Econ. 121,	4 Salvatierra
Clark, Daniel Mabee	Palo Alto	Engl. 12,	841 Bryant-p
Clark, Donald Francis	Stanford Un.	Econ. 35,	7 Alvarado
Clark, Egbert Bailey, Jr.	Upland	Econ. 19,	The Lodge
Clark, George Harold	Ida Grove, Ia.	PreL. 5,	Cardinal Club
Clark, Hazel	Redlands	Graph. 107,	Madrono
Clark, Helen Virginia	Stanford Un.	Fr. 11,	7 Alvarado
Clark, Henry Russell	Los Angeles	Chem. 11,	526 Waverley-p
Clark, Laura Cornelia	San Jose	Math. 106,	81 Roble
Clark, Laura Elizabeth	Salem, Ore.	Zool. 101,	4 Madrono
[2]Clark, Lester Lyon	Stockton	Phyl.,	611 Bryant-p
Clark, Mabel Edith	Redlands	Bot. 106,	Madrono
Clark, Paul Archibald	Stanford Un.	Hist. 87,	7 Alvarado
Clark, Paul Ulysses	San Jose	M. E. 6,	898 S. 8th, SJ-sj
Clark, Thomas Knowles	Ferndale	PreL. 5,	Cardinal Club
Clark, William Otterbein A. B., Stanford, 1906.	Palo Alto	Geol. gr.,	904 Cowper-p
Clarke, James P., Jr.	Washington, D. C.	Min. 32,	Delta Kappa Ep.
Clattenburg, Herbert A.	Eureka	Phyl. 104,	Redwood-r
Clayton, Robert McMinn	SaltLakeCity, U.	Econ. sp. 39,	Kappa Sigma
Clifford, Mildred Elsie	Burlingame	Ent. 53,	Delta Delta Delta
Cline, George Willis A. B., Stanford, 1914.	San Jose	Med.gr.,	2218Webster, SF-sf
Close, Carlos Cooper A. B., Stanford, 1914.	Spokane, Wn.	Law gr.,	Phi Kappa Psi
Clover, Philip Petrie	Los Angeles	C. E. 135,	Delta Kappa Ep.
Clowe, Virginia B.	Woodland	Hist. 76,	Pi Beta Phi
Cluff, Alfred Thomas	San Francisco	Law 123,	83 Encina
Cluff, Geraldine Marion	Reno, Nev.	Hist. 11,	KappaAlphaTheta
[1]Clute, Walker Stillwell	Los Angeles	Geol. 122,	AlphaTauOmega
Coberly, Clarence James	Los Angeles	M. E. 105,	AlphaTauOmega
[2]Cochrane, William Roy	San Francisco	PreL.,	Zeta Psi
Cody, Mervyn Joseph	San Francisco	M. E. sp. 75,	Cardinal Club
Coe, Harry Carson	San Jose	Phyl.68,	Merid.&Doug., SJ-sj
Coe, Wilbur F.	Glencoe, N. M.	PreL. 63,	39 Encina
Coffin, Mila Lucille	Reno, Nev.	Psych. 79,	DeltaDeltaDelta
Coggins, Edith Irene	Palo Alto	Engl. 105,	532 Homer-p
Cogswell, Elinor Valoy	KlamathFalls, Ore.	Engl. 93,	327 Emerson-p
Cokely, Leon Howard	Los Angeles	C. E. 50,	219 Ramona-p

Cole, Harold Lester	Los Angeles	Econ. 11,	Encina
Cole, Lloyd Ellsworth	Los Angeles	PreL. 44,	32 Encina
[1]Coleman, Alfred Henry, Jr.	Tacoma, Wn.	Geol. 44,	Delta Upsilon
Coleman, Richard Robt., Jr.	Los Angeles	PreL. 13,	Delta Kappa Ep.
Coleman, William Prescott	Los Angeles	Geol. 6,	Delta Kappa Ep.
[2]Colley, Helen Marie	Los Gatos	Fr. 13,	Los Gatos-1
Collins, G. Carter	Los Angeles	Econ. 42,	Chi Psi
Collins, Nelson Ernest	Knights Ferry	C. E. sp. 14,	Acacia
Colombet, Anita Barbara	San Jose	Educ. 62,	45 N. 8th, SJ-sj
Coman, James Lindley	Phoenix, Ariz.	Chem. 13,	5 Lasuen
[2]Compton, Robert Howard	Palo Alto	PreL.,	151 Cowper-p
Conant, David Jordan	San Jose	M. E. 105,	Theta Xi
Conard, Horace Milton	San Diego	PreL. 16,	Delta Chi
Cone, William Laurance	Springville, Utah	E. E. 99,	91 Encina
Conkling, Julia Hamilton	El Centro	Math. 106,	Delta Delta Delta
Connelly, Stella Louise	Palo Alto	Hist. 67,	541 Cowper-p
[2]Cook, Arthur G.	San Jose	M.E.sp.15,	359 Hawthorne-p
Cook, Charles Franklin	Long Beach	Law 69,	Encina
[3]Cook, Clyde Swift	San Jose	PreL.,	College Terrace
Cooke, John Daniel A. B., Stanford, 1914.	Palo Alto	Greek gr.,	310 Waverley-p
Cooley, Philip Harmachis	Palo Alto	Germ. 14,	861 Channing-p
Cooper, Dorothy Joan	San Francisco	Hist. 89,	Kappa Kappa Gam.
Cooper, Harold John	San Francisco	Phyl. 41,	Beta Theta Pi
Cooper, Lola Azella	Sanger	Engl. 114,	Mariposa Club
Copeland, Ruth McArthur	Denver, Colo.	Educ. 100,	22 Roble
Cornwall, Edward Augustus A. B., Stanford, 1914.	Redlands	Ent. gr.,	80 Encina
Cory, Margaret Esther	Fresno	Hist. 90,	Kappa Kappa Gam.
[2]Cottrell, Clifton Carlyle	San Jose	PreL.,	745 S. 10th, SJ-sj
Cottrell, Joseph Paul, Jr. A. B., Stanford, 1914.	Colton	Law gr.,	178 Encina
Council, Clarence Bloomfield	So. Pasadena	PreL. 22,	Phi Gamma Delta
[2]Coutant, Ben Wallace	Grants Pass, Ore.	C. E. †,	Acacia
Cowan, Floyd Wellesley A. B., Stanford, 1914	Hemet	Law gr.,	Chi Psi
[1]Cowen, Charles Edward B. S., Dartmouth, 1910.	Hughson	Educ. gr.,	275 Hamilton-p
Cowgill, George Raymond	Fresno	Phyl. 78,	Alvarado Hall
[2]Cox, Anna Shipley A. B., Stanford, 1909, A. M., 1913.	San Jose	Latin gr.,	855 Chapman, SJ-sj

Cox, H. Ben	San Jose	Law gr.,	77 Encina
A. B., Stanford, 1915.			
Cox, Joel Bean	Honolulu, T. H.	C. E. gr.,	51 Encina
A. B., Stanford, 1914.			
Coyle, Albert Freeman	San Jose	Law 122,	Faculty Club
Coyle, True Franklin	Berea, Ky.	Econ. 12,	4 Salvatierra
Craig, James Gourlay	Long Beach	PreL. 15,	4 Lasuen
Craig, John, Jr.	Long Beach	Math. 15,	Alvarado Hall
[1]Cram, Arthur Davis	E. Highlands	Econ. †15,	Sigma Nu
Cram, Clara	E. Highlands	Engl. gr.,	Pi Beta Phi
A. B., Stanford, 1914.			
Cram, William Henry	E. Highlands	Econ. 76,	Sigma Nu
Cramer, Margaret	Palo Alto	Germ. 104,	675 Channing-p
[1]Crandall, Harriet Ruth	Palo Alto	Graph. gr.,	737 Waverley-p
A. B., Stanford, 1914.			
Crandall, Hector	Palo Alto	Geol. gr.,	660 Waverley-p
A. B., Stanford, 1913.			
Crane, William Whitfield, Jr.	Oakland	Phyl. 45,	Sigma Nu
Crary, George Egleston	Los Angeles	Econ. 40,	Kappa Sigma
Crawford, James Porter	San Francisco	Med. gr.,	2320 Clay, SF-sf
A. B., Stanford, 1912.			
Crim, Georgia Estelle	San Francisco	Hist. 63,	12 Madrono
Crobaugh, Mervyn	San Jose	Econ. 15, 66	Stockton, SJ-sj
Crocker, Clarke Wilkins	Selma	C. E. 52,	54 Encina
Crocker, Percy Summers	Selma	Geol. 9,	54 Encina
Cronenwett, Fred McCall	Monrovia	C. E. 40,	187 Encina
Cross, Joseph Cameron	San Francisco	Engl. 46,	Phi Delta Theta
[2]Croston, John J., Jr.	New York, N. Y.	Min.,	The Alexandria-p
Crowe, Harold Enos	Long Beach	Phyl. 48,	4 Salvatierra
[2]Crowell, Clarence Welland	Roch'ter, N.Y.	Chem. †,	Theta Delta Chi
[2]Crown, Frank A. C.	San Jose	Hist. gr.,	3618 Alum Rock, sj
A. B., Lawrence, 1905; M. D., Marquette, 1906.			
Crutcher, Ruth Cary	Florence, Ore.	Span. 13,	Delta Gamma
Cullen, Thomas Joseph	Gilroy	Geol. 42,	184 Encina
Culp, Winifred	Escondido	Chem. 45,	49 Roble
Cumberland, Esther Clarice	Lordsburg	Med.gr.,	1926 Octavia, SF-sf
B. S., Occidental, 1910.			
[1]Cundiff, Stuart Albert	Riverside	Bot. 50,	Kappa Alpha
[1]Cuneo, Irene Rose Lucile	San Mateo	Educ. 120, 134	Elm, SM-sm
A. B., Stanford, 1915.			
Curler, Ben Vogel	Elko, Nev.	PreL. 42,	Cardinal Club
Currier, Donald Locke	Cupertino	Ent. 105,	Theta Xi

Curry, Marjorie Palo Alto Econ. 15, KappaAlphaTheta
Curry, Mary Louise Palo Alto Engl. 103, Madrono
Curry, Walter Clyde Gray-Court, S. C. Engl. gr., 559 Cowper
A. B., Woffard College, 1909; A. M., Stanford, 1913.
Curtis, Lucile Rose Los Angeles Hist. 107, Alpha Omicron Pi
Curtis, Meredith Anderson Los Angeles Econ. 23, Sigma Nu
Curtis, Wallace Burdett Rochester,N.Y. M. E. 72, 357 Kingsley
Curtner, Louise Glendyline Sunnyvale Econ. †7, KappaAlphaTheta
Curtner, William Weller Warm Springs Ent. 75, 100 Encina
Dachner, Richard Eggesin, Pomm., Ger. M. E. sp. 6, 2 Lasuen
Dains, Ivores Roy Santa Clara PreL.12, 755Franklin,SC-sc
Dalao, Nicholas B. Cebu, P. I. C. E. †8, 369 Addison-p
Dana, Harvey Drexler San Jose C.E.14, 231Minnesota,SJ-sj
Daniel, Meta Caroline Fullerton Zool. 106, 84 Roble
Daniells, Nina Carrie Lindsay Hist. gr., 34 Roble
A. B., Stanford, 1915.
Daniels, Arthur Howard Redlands Law 106, Delta Chi
Darke, Frederick Eugene San Jose PreL. 15, 393 N. 12th, SJ-sj
Darling, Eliza Edington Ventura Graph. 74, LangworthyClub
Darrah, Guard Clement Lodi PreL. 17, 605 Gilman-p
Davidson, Elliott Emerson Palo Alto Geol. 16, 436 Florence
Davidson,GordonMcMillan LosAngeles M. E. 9, Alvarado Hall
[1]Davie, Theodore John San Francisco Med. †, 329 Hawthorne-p
Davies, Ivor J. Evanston, Wyo. M. E. 66, 44 Encina
Davis, Alexander W. Pomona Law gr., Theta Delta Chi
A. B., Stanford, 1914.
Davis, Barber Ferdinand Spokane, Wn. PreL. 13, Cardinal Club
[1]Davis, Byron Dade Highland Bot. 41, 128 Encina
Davis, Charles Skinner Honolulu, T. H. Law gr., Acacia
A. B., Stanford, 1914.
Davis, Edward Wheeler Mill Valley M. E. sp 7, TheAlexandria-p
[2]Davis, Gordon Arthur Salem, Ore. Educ., Cardinal Club
Davis, Hazel R. Colorado Springs, Colo. Educ.102, KappaKappaGam.
Davis, Julian Ralph Pomona Law 107, Theta Delta Chi
Davis, Margaret Indianapolis, Ind. Engl. 105, 20 Alvarado
[2]Davis, Peter Stuart, Chinook, Wn. Hist. †, 660 Waverley-p
[1]Davis, Philip Du Mond Los Angeles Phyl. 13, 4 Salvatierra
Davis, Ruth Colorado Springs, Colo. Lat. 110, Kappa Kappa Gam.
Davy, Donald Gordon San Jose Econ. 109, Delta Kappa Ep.
Davy, Dorothy San Jose Graph.91, KappaKappaGam.
Day, Carl Edwin Watsonville Law gr., 155 Encina
A. B., Stanford, 1914.

Day, Donald McLain Los Angeles C. E. 66, Cardinal Club
Day, Jack George Portland, Ore. PreL. 36, Zeta Psi
Dayton, Leo Augustus Salinas PreL. 48, Delta Chi
Decius, Harold Wesley Los Angeles Chem. 62, Zeta Psi
Degnan, John Paul San Francisco Med. 136, 2428Pine,SF-sf
A. B., Santa Clara, 1910, A. M., 1913.
Denhart, Harry John San Jose Law 67, 42 Encina
Denhart, Helen Lucile San Jose Phyl. 80, 330 S. 6th, SJ-sj
Dennie, Benjamin Franklin Long Beach C. E. 9, Kappa Alpha
Dent, Leslie Ferdinand Berkeley Econ. 64, Beta Theta Pi
Detels, Martin Paul Palo Alto Law 121, 1055 Cowper-p
A. B., Santa Clara, 1912.
[2]Dewey, Geraldine Dacia Nampa, Ida. Engl., 52 Roble
Dickey, Frank Fletcher San Francisco M. E. 41, Zeta Psi
Dickinson, William George Los Angeles PreL. 13, Delta Tau Delta
Dievendorff, Horton Harold San Diego C. E. 40, Kappa Alpha
[1]Diller, Earl Berton Seattle, Wn. Med. †, 329 Hawthorne-p
A. B., St. Mary's, 1914.
[2]Dingley, Robert Gardner Palo Alto PreL. 26, 575 Kellogg-p
Dingley, Walter Frederick Palo Alto Chem. 70, 575 Kellogg-p
[2]Dinsdale, Merle Vere Woodland Hist. †, 19 Salvatierra
Dixon, Robert James San Jose Phyl. 13, 34 Magnolia, SJ-sj
Doble, John Ashton San Francisco M. E. sp. 10, 357 Kingsley-p
Dodd, John McKee San Francisco Chem. gr., 405 Emerson-p
A. B., Stanford, 1914.
Dodge, John Wallace Berkeley C. E. 77, 177 Encina
Dolan, Otis Dyer Monrovia Econ. 15, Mariposa Hotel
Dolbow, Floyd Weeks Spokane, Wn. M. E. 43, 900 Waverley-p
[1]Donaldson, Lorna Grace Palo Alto Engl. 73, 751 Webster-p
Donaldson, Robert Anders Denver,Colo. Engl. 32, 152 Encina
Donovan, Elizabeth San Jose Fr. gr., Polhemus, SJ-sj
A. B., College of Pacific, 1914.
Donovan, Mary Monica San Jose Med. gr., 2323 Wash., SF-sf
A. B., College of Pacific, 1913; A. B., Stanford, 1914.
Dool, Donald George Los Angeles C. E. 102, Alvarado Hall
Dorn, Marion Victoria San Francisco Engl. 73, Gamma Phi Beta
Dorroh, Terese Beatrice Angels Camp Engl. 72, Langworthy Club
[1]Douglass, Nelson, Jr. Los Angeles Econ. 17, Beta Theta Pi
Dowling, Paul Henry Los Angeles Engl. 79, Delta Tau Delta
[1]Downing, Edna LeRoyce Pomona Hist. 120, 1 Madrono
A. B., Stanford, 1915.
Downing, Russell Forrest Los Gatos Law 98, 33 Encina

Downing, Samuel Robert San Francisco Med. gr., C.&C.Hosp.,SF-sf
A. B., Stanford, 1907.
[2]Doxsee, Wilbur Harvey Redwood City Educ. gr., Redwood City-r
A. B., Stanford, 1913.
Drake, Benjamin F. Santa Rosa Bot. 41, 167 Encina
[1]Draper, Guy Arroyo Grande Chem. 12, 93 Encina
[1]Draper, Roscoe Leroy Arroyo Grande Med. gr., 94 Encina
A. B., Stanford, 1913.
[2]Drinkwater, Harold Paul Denver, Col. Law gr., Alpha Tau Omega
A. B., Colorado, 1913.
[2]Driscoll, John Gerald San Luis Obispo PreL., 1345 Webster-p
Driver, Herschel L. Portland, Ore. Geol. 14, Theta Xi
[1]Drury, Nan San Diego Hist.121, KappaAlphaTheta
A. B., Stanford, 1915.
Dubendorf, Horace Hayes Palo Alto Geol. 60, 801 Waverley-p
Duernberger, Frank Roscoe Sunnyvale Hist. 101, Sunnyvale-s
Dugan, Ethel Ray Hazleton, Pa. Hist. gr., Alpha Phi
A. B., Smith, 1910.
[1]Dugan, Gerald A. Tonopah, Nev. M. E. 19, 643 High-p
Duncan, Freeman David Campbell C. E. 43, Theta Xi
[2]Duncan, John Atkinson Yuba City Med.†, 2325Chann'g,Berk.-b
Duncan, Robert John Mayfield Min. 5, Mayfield-m
Dunlap, David Porter Douglas, Ariz. Law 72, 117 Encina
Dunlap, Marjorie Louise Hanford Graph. 76, LangworthyClub
Dunlap, Willard Everett Los Angeles Geol. 112, AlphaTauOmega
Dunlop, Florence Edetha San Francisco Med. gr., 2321 Sacto., SF-sf
A. B., Stanford, 1913.
Dunn, Clarence Joseph Los Angeles PreL. 3, 43 Encina
Dunn, Herbert Iliff Fresno PreL. 13, Zeta Psi
Dunn, Teresa Pauline Monrovia Hist. gr., Langworthy Club
A. B., Stanford, 1914.
[2]Dunshee, Herva Consuelo Palo Alto Graph., 734 Waverley-p
Durgin, Eva Lillian Cupertino Med. gr., 2737 Clay, SF-sf
A. B., Stanford, 1914.
Durgin, Rubie Mae Cupertino Med. gr., 2737 Clay, SF-sf
A. B., Stanford, 1914.
[2]Durney, Raymond Joseph Alameda Econ., Delta Kappa Ep.
Duryea, Anne Palo Alto Engl. 15, 308 Lincoln-p
Duryea, Margaret Palo Alto Econ. 98, 308 Lincoln-p
Dutton, Earl Treff Tropico Educ. 86, 36 Encina
Dwight, Ben Hunter Durant, Okla. Law gr., 1106 Bryant-p
A. B., Columbia, 1912.

Dykes, Harlan Hebe Petaluma PreL. 11, Alpha Tau Omega
Earl, Harley J. Los Angeles Geol. 4, Phi Delta Theta
[2]Earle, Minnie Mae Elgin, Iowa Engl. gr., 12 Roble
A. B., Upper Iowa University, 1910.
Easterday, Robert Oscar Palo Alto Chem. 71, 578 Lowell-p
Eastey, Lillian Estelle San Jose Engl. †11, Madrono
Eastman, Joseph Houston Berkeley PreL. 10, Sigma Chi
Eaton, Dorothy Palo Alto Span. 12, 431 University-p
Eaton, William Henry, Jr. Los Angeles C. E. sp. 11, 192 Encina
Eberhart, Roland Fred San Jose Engl. †17, Stanford Inn
Edwards, Alfred Rice Palo Alto Law 103, 707 Melville-p
[2]Edwards, Edward Wm. Santa Barbara C. E. sp. 12, 38 Encina
Edwards, Elizabeth Palo Alto Hist. 67, 707 Melville-p
Edwards, Helen Margery Palo Alto Zool. 43, 627 Homer-p
Egbert, Dorothy Barnes San Francisco Graph. 87, Alpha Phi
Ehrenclou, Alfred Hjalmar San Fran. Med.gr., 1938Buchan.,SF-sf
A. B., Stanford, 1914.
Eickhoff, Henry, Jr. San Francisco PreL. 9, Sigma Chi
Eigenmann, Charlotte Bloomington,Ind. Germ. 102, 40 Roble
Eiskamp, Ehler Henry Palo Alto Phyl. 10, 446 Forest-p
Elbring, August William St. Louis, Mo. C. E. 3, 21 Encina
Elden, John Francis, Jr. Los Angeles Law 84, Alvarado Hall
Eldred, Fred Huestis Los Angeles Chem. gr., Encina
B. S., Occidental, 1914.
Ellias, Laura Lillian Glendale Engl. 108, 87 Roble
Elliott, Christabel Stanford Un. Educ. 92, 19 Madrono
Elliott, David Coit Stanford Un. Econ. 13, 5 Cabrillo
Elliott, Harold Farley Prescott, Ariz. M. E. 85, 160 Encina
[1]Elliott, Norman A. Baker City, Ore. Phyl. sp. 30, Acacia
Ellis, Agler Boalt Stockton PreL. 16, 605 Gilman-p
Ellis, Leland W. E. Bakersfield Phyl. 14, 172 Encina
[1]Ellis, Leon Spokane, Wn. Hist. 129, Delta Tau Delta
A. B., Stanford, 1915.
Ellison, Phyllis Margaret Woodland Engl. 41, Pi Beta Phi
Elsey, Florence Starr Palo Alto Hist. 44, 637 Gilman-p
Elsey, George Wendell Palo Alto M. E. 74, 13 Encina
Elsey, Howard McKee Palo Alto Chem. gr., 606 Cowper-p
A. B., Stanford, 1914.
Emerson, Ethel Eunice Mountain View Educ. †12, Mt. View-mv
[1]Emerson, James Gordon Stanford Un. Law gr., 190 Encina
B. S., Iowa State College, 1912; J. D., Stanford, 1915.

Emery, Allen Lee	Portland, Ore.	PreL. 48,	Phi Kappa Psi
Engels, Emil Edward	Seattle, Wn.	M. E. 43,	200 Encina
English, Floyd Everett	Cupertino	PreL. 40,	105 Byron-p
English, Henry Rowland	Stanford Un.	Econ. 66,	35 Encina
Enke, Melinda	Portland, Ore.	Lat. 70,	Delta Gamma
[1]Epperly, Albert Marion	Lebanon, Ore.	Phyl. †7,	Delta Tau Delta
Erb, Arthur Leslie	Tacoma, Wn.	Law 101,	Sigma Alpha Ep.
Erich, Ezra Edward	San Jose	Min. 11,	546 N. 4th, SJ-sj
Erickson, Arthur Samuel	Los Altos	Educ. sp. 9,	Los Altos-l
[2]Erickson, Frank Morton	Los Altos	Educ. gr.,	Los Altos-l
A. B., Wabash, 1892; A. M., Chicago, 1895.			
Erickson, John Michael	Medford, Wis.	Law unc. 110,	Acacia
Esaki, Ko	Berkeley	E. E. 104,	Japanese Club
Estcourt, Doris Elfrida	San Francisco	Engl. 14,	65 Roble
Estcourt, VivianFitzGeorge	SanFrancisco	M. E. 15,	19 Salvatierra
Evans, Emlyn H.	Johnstown, Pa.	PreL. 32,	8 Encina
Evans, Errol Southworth	Riverside	M. E. 116,	Theta Xi
Evans, Harry Fred	Campbell	M. E. 13,	2 Lasuen
Evans, Margaret Reese	Palo Alto	Zool. 43,	831 University-p
Evenson, WillardTaylor	Clatskanie, Ore.	PreL. 52,	126 Encina
Everson, Susie May	Palo Alto	Germ. 106,	310 High-p
Eyer, William Knowlton	Los Angeles	Econ. 40,	Phi Gamma Delta
Fabling, Harry Creed	Denver, Colo.	C. E. 67,	115 Encina
Falk, Theodore	Boise, Idaho	PreL. 16,	22 Lasuen
[1]Farnsworth, Winifred Elise	Visalia	Graph.,	555 Kellogg-p
Farrar, Irwin Elmer	Corona	Law 70,	845 Bryant-p
Farrell, Amy Lenora	Salt Lake City, U.	Fr. 69,	45 Roble
Farrer, Leland Joseph	Provo, Utah	Econ.40,	AlexandriaHotel-p
Farris, Fauna Wynne	Palo Alto	Engl. sp. 75,	315 Everett-p
Felberbaum, William	Portland, Ore.	Phyl. sp. 13,	526 Waverley-p
Felt, Tom B.	Los Angeles	M. E. 6,	Acacia
Fenimore, George Wills	Los Angeles	Engl. 30,	2 Lasuen
Fergus, Floyd	Anaheim	M. E. 11,	559 Cowper-p
Ferguson, Donald Kelly	San Diego	PreL. 13,	Phi Delta Theta
Ferris, Gordon Floyd	Modesto	Ent. 79,	194 Encina
Fesler, Rachael	Duluth, Minn.	Hist. 15,	Delta Gamma
Fesler, Ruth	Duluth, Minn.	Hist. 15,	Delta Gamma
Field, Oliver C.	Ketchikan, Alaska	M. E. 43,	AlphaTauOmega
[2]Field, William Richards	San Jose	Phyl. 22,	Delta Tau Delta
Figg-Hoblyn, Arthur W.	Santa Barbara	Law 74,	140 Encina
[2]Filley, Louis Jay	South Pasadena	Econ. sp.,	Zeta Psi

[1]Finch, Robert McMaster Los Angeles Econ. 123, Chi Psi
A. B., Stanford, 1915.
Finney, Florella Kelso Modesto Phys. gr., 324 Emerson-p
A. B., Stanford, 1914.
Fisher, Albert B. Salt Lake City, Utah Law 69, Phi Kappa Psi
Fisher, Arthur William, Jr. Los Angeles C. E. 38, Kappa Alpha
Fisher, Hale Baker, Jr. Palo Alto PreL. 34, 875 University-p
Fisher, Hazel Margreta Penryn Germ. 91, 57 Roble
Fisher, Prudence Hale Palo Alto Econ. 8, 875 University-p
Fisher, Revere Paul Fresno Geol. 6, SigmaAlphaEpsilon
Fisher, Wilfred Balliet Aurora, Ill. Econ. 11, 1028 Bryant-p
Fitch, Katherine Margaret San Jose Graph. 47, Gamma Phi Beta
[1]Fithian, Robert Graham Portland, Ore. PreL. 27, Zeta Psi
Flack, Augustus Sloan Los Angeles Law 109, Delta Chi
[2]Flanders, Edward Aiken San Francisco C.E. gr., 2490 Filbert, SF-sf
A. B., Stanford, 1908.
Fleming, James Douglas San Bernardino C. E. 12, Phi Gamma Delta
Fletcher, Hal B. Palo Alto Chem. 26, Acacia
Fletcher, HaroldAugustus San Francisco Med. gr., 2418 Wash., SF-sf
B. S., California, 1912.
Fletcher, William Daly Palo Alto C. E. 78, 109 Encina
Flint, John Donovan Palo Alto Law 92, 841 Bryant-p
Flood, Thomas Bernard Tonopah, Nev. C. E. 30, 45 Encina
[1]Floodberg, Ralph Arnold SanFrancisco PreL. 44, Phi Gamma Delta
Florence, Laura Aberdeen, Scotland Ent. gr., 5 Salvatierra
M. A., Aberdeen, 1907, B. Sc., 1909.
Flowers, Mary LaBelle Monrovia Engl. 31, KappaAlphaTheta
Flowers, Montaville Deane Monrovia Hist. 10, 25 Encina
Flügel, Felix Palo Alto Econ. gr., 1153 Cowper-p
A. B., Stanford, 1914.
Flynn, FrancisKildare North Platte, Neb. E. E. 94, Theta Xi
Fogel, Marguerite Santa Monica Germ. 45, Alpha Omicron Pi
Forbes, Jeannie Isabelle San Mateo Eng. 8, 420ElCamRl., SM-sm
Forbes, Margaret Irving Palo Alto Germ. 81, 1739 Waverley-p
Forbes, William Boomer Los Angeles Law 110, Delta Upsilon
Ford, Edward Morris Los Angeles PreL. 15, Alpha Tau Omega
Ford, Edwin H. Minneapolis, Minn. Engl. 116, 1106 Bryant-p
Ford, Ephraim Elma McMinnville, Ore. C. E., 542 Cowper-p
Fore, Harry Adolph San Jose Physics gr., 36 Coe av., SJ-sj
A. B., Stanford, 1913.
[1]de Forest, Clara Marie Palo Alto Econ. 71, 950 University-p
Forster, Joseph Harold Hillsboro, N. D. Law gr., Phi Delta Theta
A. B., North Dakota, 1914.

Fortin, Adele Julie — Los Angeles — Educ. 109, — Delta Gamma
Foster, Marjorie Greene — San Rafael — Chem. gr., — Madrono
A. B., Stanford, 1914.
Fout, Edmond Eugene — Palo Alto — Hist. 53, — 1021 Cowper-p
Fowler, Harry Clarence — Paso Robles — C. E. 109, — 67 Encina
Fox, Byron Parlier — Seattle, Wn. — Geol. 65, — 825 Cowper-p
Frank, Lawrence Phillip — Los Angeles — PreL. 32, — 66 Encina
Frantz, Harry Warner — Riverbank — Econ. 41, — Alvarado Hall
Freed, Victor — Bellevue, Wn. — Phyl. 37, — 169 Encina
Freeman, Henry A. — Central Point, Ore. — PreL. 31, — 128 Encina
[1]Freeman, Stuart — Portland, Ore. — PreL. 24, — Zeta Psi
Fribley, John Willour — Ashland, Ohio — Econ. 79, — 405 Emerson-p
Fritsch, Rudolf Hermann — Palo Alto — Econ. 23, — 831 Kipling-p
Frye, Henry Abraham — Newcastle — Econ. 43, — 59 Encina
Fukazawa, Umekichi — Los Angeles — Min. †7, — Japanese Club
Fuller, Justin Keyser — San Francisco — Med. gr., — 779 1st ave., SF-sf
B. S., California, 1912.
Fulmer, L. Roy — Los Gatos — Educ. gr., — Los Gatos-l
A. B., College of Pacific, 1900; B. S. T., Boston University, 1904.
[2]Gage, Edmund Vernon — Palo Alto — Fr. gr., — 623 Middlefield-p
A. B., Harvard, 1899; A. M., Pennsylvania State College, 1908.
Gage, Paul S. — Oxnard — PreL. 9, — Chi Psi
Gagos, Kurken M. — Fowler — M. E. 37, — 567 Melville-p
[2]Galliano, Frank James — Oakland — Hist., — 334 Lincoln-p
[2]Gamboni, Fred A. — Stockton — C. E. sp. 6, — 10 Encina
Gangestad, Roy Sylvester — Los Angeles — PreL. 12, — Delta Kappa Ep.
Gansert, William Iles — Rock Island, Ill. — PreL. 14, — 17 Salvatierra
[1]Gard, Frank Jacob — Glendora — Chem. gr., — PhiGammaDelta
A. B., Stanford, 1914.
Gard, Mary Carolyn — Glendora — Hist. 107, — Alpha Phi
Gardiner, Joyce Ada — Santa Barbara — Zool. 111, — 54 Roble
Gardiner, Lucius Dean — Long Beach — PreL. 13, — Delta Chi
Gardner, Laurence Dickinson — Ventura — Chem. 48, — 122 Encina
Gardner, William Lloyd — San Francisco — Chem. 40, — 121 Encina
[1]Gareau, Joseph Rodolphe — Montreal,Can. — Ent. sp. 24, — 22 Lasuen
Garliepp, William Louis — Mountain View — Ent. 14, — Mountain View-m
Garnett, James St. Clair — San Francisco — M. E. 3, — Theta Xi
Garsed,GwendolenHarriet — Stanford Un. — Engl. 17, — Pine Cottage
Garwood, Alda Ann — Mayfield — Econ. 42, — Mayfield-m
Gaston, Mary Hope — San Gabriel — Germ. 105, — Alpha Phi
Gates, Florence Mabel — So. Pasadena — Fr.110, — KappaKappaGamma
Gates, Fred Herbert — So. Pasadena — Hist. 105, — PhiGammaDelta

Gazlay, Frank Andrews San Diego PreL. 45, 1106 Bryant-p
[1]Gearhart, William Edgar Batavia, Ia. Law gr., Acacia
A. B., Iowa, 1913; J. D., Stanford, 1915.
Gerwin, Vera Marian Redwood City Hist. gr., Redwood City-r
A. B., Stanford, 1915.
Gibb, James Albert Aiea, Hawaii M. E. 68, Phi Kappa Psi
Gibson, Edgar George SaltLakeCity,Ut. Econ. †10, The Lodge
Gibson, William H. SaltLakeCity,Utah Econ 11, The Lodge
Gilbert, Carl Hughes Palo Alto Law gr., 64 Encina
A. B., Stanford, 1913.
Gilbert, Marion Montrose, Colo. Hist. 12, AlphaOmicronPi
[2]Gilbert, Rae Montrose, Colo. Hist. †, Alpha Omicron Pi
Gilbert, Ramon Augustus San Francisco Med. gr., 3987 18th, SF-sf
B. S., California, 1913.
Gilchrist, Margaret Josephine San Jose Engl.105, KappaKappaGam.
Gill, Gerald Forbes Berkeley C. E. 99, 179 Encina
Gillespie, Bartlett Whitmer Santa Maria M. E. 14, 195 Encina
Gillespie, Jack Morgan Palo Alto PreL. 12, N. Palo Alto rd.-p
Gillies, Don Alhambra Chem. 12, Alvarado Hall
Gilliland, Otho James Altoona, Pa. Bot. 79, 520 Everett-p
Gilroy, William Santa Monica PreL. 36, Chi Psi
Girdner, Margaret Virinda Sacramento Hist. gr., 19 Salvatierra
A. B., Stanford, 1915.
Gladstone, Dwight Beckwith Palo Alto M. E. 47, 603 Waverley-p
[2]von Glahn, Anne Luella Ripon Lat. gr., 324 Emerson-p
A. B., College of Pacific, 1914.
Goddard, Winfred Rawdon Palo Alto Chem. gr., Alvarado Hall
A. B., Stanford, 1914.
Goff, Clifford Palo Alto M. E. 47, 223 Channing-p
Goldberg, Edward Washington, D. C. Educ. 38, 756 Bryant-p
Golden, Abram Lee Billings, Mont. Law gr., 454 Forest-p
A. B., Colorado College, 1913.
Goldsmith, Arthur A. Los Angeles Law 92, 107 Encina
Goldstein, Joseph Sacramento Phyl. 13, 196 Encina
[2]Gonzales, Francisco Leopoldo San Jose Phyl., College Terrace
Good, Roy Milton Marshalltown, Ia. Econ. 111, Cardinal Club
[1]Goodale, Earle Edward Lemon Cove PreL., 245 Ramona-p
[2]Goodan, Alan Los Angeles Hist., 127 Encina
Goodman, John Harvey Berkeley Econ. 72, Delta Kappa Ep.
[1]Goodwin, Norris Redwood City Chem., Phi Kappa Psi
Goplerud, Ann Clarice Osage, Ia. Germ. 42, Pi Beta Phi
Goplerud, Clifford Peter Osage, Ia. C. E. gr., Kappa Alpha
A. B., Stanford, 1915.

Gores, Walter Winthrop J.	Los Angeles	Graph. 46,	2 Lasuen
Graham, Chalmers George	Palo Alto	PreL. 16,	1118 Emerson-p
Graham, Frances Boswell	Pomona	Hist. 102,	KappaAlphaTheta
[1]Graham, Garrett Hobart	Whittier	Engl. 12,	Cardinal Club
Graham, Helen Marie	Seattle, Wn.	Greek 78,	419 Florence-p
Grandy, Clayton Curtiss	Cleveland, Ohio	Hist. 46,	AlexandriaHotel-p
Grant, Richard Harry	Portland, Ore.	PreL. 32,	Phi Gamma Delta
Grant, Wilma	Sparta, Ill.	Chem. 11,	Alpha Phi
[1]Grau, Fritz Seymour	Sacramento	Econ. 79,	Sigma Nu
Graves, John Maddux	San Francisco	Phyl. 76,	Chi Psi
Graves, Olin Wright	Bostonia	Econ. 109,	454 Homer-p
Gray, Agnes Kendrick	Atlanta, Ga.	Fr. 111,	11 Alvarado
Gray, George Donald	Pueblo, Colo.	Fr. 12,	Y. M. C. A., SJ-sj
Gray, John	Ukiah	Ent. 28,	756 Bryant-p
Green, Boynton Morris	Redlands	M. E. gr.,	70 Encina
A. B., Stanford, 1914.			
Green, Charles Dudley	Long Beach	PreL. 16,	Delta Chi
[1]Green, Charles Keith	Los Angeles	C. E. 36,	11 Salvatierra
Green, Gladys	Redlands	Engl. 13,	13 Madrono
Green, Glen Dollard	Long Beach	Econ. †12,	4 Salvatierra
Green, Sidney Sherwood	Palo Alto	Law 122,	659 Melville-p
Green, Waldron A.	Pasadena	Geol. 67,	Delta Upsilon
[1]Greene, Virginia Eleanor	San Francisco	Econ. 42,	14 Roble
[2]Greening, Helen Kathleen	Los Angeles	Lat.,	6 Roble
Greer, Thomas Vaughan	Portland, Ore.	Econ. 13,	Zeta Psi
Gregory, Alfred Craven	Menlo Park	C. E. 103,	Beta Theta Pi
Greve, Frank Henry	Hollywood	Geol. 11,	Phi Delta Theta
Griffin, Albert Devereaux	Los Angeles	C. E. 51,	35 Encina
Griffin, Raymond Rudolph	Salinas	PreL. 48,	Delta Chi
Griffin, Robert Allen	Santa Monica	Engl. 36,	Phi Delta Theta
[1]Griffin, Roscoe Wadsworth	Vallejo	Law gr.,	158 Encina
A. B., Stanford, 1913, J. D., 1915.			
[2]Griswold, Jos Whiting	Shlbrne Flls, Mass.	M. E. 9,	412 Cowper-p
Gross, Wilmer Jackson	San Jose	Econ. 82,	Delta Kappa Ep.
Grounds, Effie	Fresno	Hist. 77,	Langworthy Club
Gunn, Milton Curtiss	Helena, Mont.	Law 66,	The Lodge
Guthrie, Esther Lee	Woodland	Educ. 107,	25 Roble
[1]de Haas, Jacob Anton	Stanford Univ.	Econ. gr.,	University Hghts
A. B., Stanford, 1910; A. M., Harvard, 1911.			
Hadden, Fannie	Palo Alto	Chem. 61,	1157 Ramona-p
Hadley, James Jackson	Berkeley	Econ. †13,	Kappa Sigma

Haegele, Rowland Wells Helena, Mont. Ent. 109, The Lodge
Hafer, Joseph Burske San Diego PreL. 14, Delta Chi
Haffner, Georgia Ocean Park Econ. 45, Gamma Phi Beta
Hagen, Milton Abel Los Angeles Engl. 83, 162 Encina
[1]Hager, John Manfred Los Angeles Econ. 120, 36 Encina
A. B., Stanford, 1915.
Haggart, Gilbert E. Durango, Colo. Phyl. 99, Delta Upsilon
Haggart, William W. Durango, Colo. Phyl. †12, Delta Upsilon
Hahn, Herbert Leonard Pasadena Law 65, 176 Encina
Haig, Thomas Raymond San Jose Phyl. 11, 64 Magnolia, SJ-sj
Haines, Wilbur Heath Oakland Chem. 6, Theta Delta Chi
Hake, Benjamin Franklin Los Angeles Geol. 11, Alvarado Hall
Haley, Virgil Ernest San Jose PreL. 9, 181 S. 13th, SJ-sj
Hall, Clarence Rector Mt. Vernon, Wn. Chem. 14, 40 Encina
[1]Hall, Elwin Benoni Los Angeles Geol. 120, Beta Theta Pi
A. B., Stanford, 1915.
Hall, Jean Ethel Los Angeles Math. 13, Pi Beta Phi
Hall, Lucy Alice Palo Alto Fr. 38, 346 Waverley-p
Hall, Lylah Dean Riverside Span. 40, AlphaOmicronPi
Hall, Muriel E. San Mateo Graph.48, 29Bayw'd,SM-sm
Hall, Myron Crawford Palo Alto Engl. 14, 346 Waverley-p
Hall, Norma Pierce Hollywood Engl. 9, Delta Gamma
Halsted, Samuel Thompson Riverside C. E. 47, Beta Theta Pi
Ham, William Thomas San Jose Engl. gr., Col.ofPac.,SJ-sj
A. B., College of Pacific, 1913.
Hamaker, Rex Gerome Los Angeles C. E. 54, Phi Gamma Delta
Hamilton, Frederick C. Pasadena Econ. 104, 104 Encina
Hamlyn, Geraldine Mary San Francisco Hist. †10, Pi Beta Phi
Hammel, John Calvin Ontario Law 97, 33 Encina
Hammett, Harry Rice Redlands M. E. 46, 31 Encina
Hammon, Glenn A. San Francisco Math. 32, Phi Delta Theta
Hammond, George R. Roseburg, Ore. M. E. 15, College Terrace
[1]Hammond, James Morris Oakland Law sp. unc.25, 18Alvarado
Hammond, Philo Fay Palo Alto Phys. gr., 467 Everett-p
A. B., Washington, 1907.
Hampton, Fred George Hardwick M. E. 75, 313 Kipling-p
Hancock, Beatrice Margaret Riverside Hist. †13, Delta Gamma
Hankins, John Lester Tucson, Ariz. PreL. 12, Phi Gamma Delta
Hanna, Gladys Long Beach Hist.104, KappaKappaGam.
Hanna, John Alford Auburn, Neb. Hist. gr., 2 Lasuen
A. B., Dartmouth, 1914.
Hanna, Maynard Basil Fresno Law sp. 11, 118 Encina

Hannibal, Edna Ann — San Jose — Zool. 113, — 33 Roble
Harbour, Nina — Orange — Hist. gr., — 35 Roble
A. B., Stanford, 1915.
Hardy, Conrad Palmer — Dawson, Can. — C. E. 74, — 4 Salvatierra
Harmon, Cora Alice — Bozeman, Mont. — Engl. 104, — Delta Gamma
Harrington, Donald S. — Leetonia, Ohio — Econ. 9, — 4 Salvatierra
Harrington, Edward W. — San Rafael — Graph. 15, — 275 Hamilton-p
Harrington, Leo Walter — Tonopah, Nev. — Law 60, — 14 Encina
Harris, Ronald Biddle — Fresno — PreL. 31, — Chi Psi
Hart, Alfred W. — Aberdeen, Wash. — Econ. 7, — Phi Delta Theta
Hart, Harry Pendleton — South Pasadena — C. E. 50, — Encina
Hartwell, Hazel Louise — San Diego — Math. 72, — AlphaOmicronPi
Hartwig, Charles Henry — Los Angeles — Phyl.gr., — StudentGuildHos.
A. B., James Milliken University, 1909.
Harvey, Henry Rakestraw — Phoenix, Ariz. — Law 57, — 83 Encina
[1]Hasemeier, John Willard — Los Angeles — PreL. 10, — Zeta Psi
Hashiba, George K. — San Francisco — Med. gr., 1863 Pine, SF-sf
A. B., Stanford, 1915.
Hastings, Edmund A. — Oregon, Ill. — Econ. 104, — Delta Kappa Ep.
Hastings, Harlow H. A., Jr. — Seattle, Wn. — Law 98, — Delta Kappa Ep.
Hastings, James Uhler — San Jose — PreL. 41, — AlphaTauOmega
Hatch, Chesley Warde — Modesto — Law 69, — Delta Tau Delta
Haub, Alma Anita — Santa Rosa — Phys. gr., — 59 Roble
A. B., Stanford, 1914.
Hauser, Henry Paul — San Francisco — Phyl. 1, — 197 Encina
Hawk, Raymond Franklin — Spokane, Wn. — Chem. 48, — 219 Ramona-p
Hawkins, Effie Izah — Palo Alto — Educ. gr., — 313 Waverley-p
A. B., Stanford, 1914.
Hawley, Donald A. — Oakland — C. E. 39, — Sigma Nu
Hawley, Henry James — Portland, Ore. — Geol. 79, — 157 Encina
Hayden, Marcella — Los Angeles — Hist. 14, — Gamma Phi Beta
Haydock, Evelyn Gladys — San Jose — Math. 75, — 487 N. 5th, SJ-sj
Hayes, Allan Sidney — Pasadena — Geol. 60, — Zeta Psi
Hayes, Elystus Lyon — Edenvale — Law 69, — Phi Delta Theta
[2]Hayes, Eugene — Pasadena — Econ., — Alpha Tau Omega
[1]Hayes, Francis William — Cupertino — Min. 125, — Cupertino-c
A. B., Stanford, 1915.
Hayes, George Gurnea — Redlands — C. E. 12, — Theta Xi
Hayes, Percy Julian — E. Bakersfield — Chem. 72, — 172 Encina
Hayward, Charles Sherman — Los Gatos — Graph. 14, — Los Gatos-l
Hayward, Samuel Thomas — Los Angeles — Math. 106, — 92 Encina

Hazlett, Margaret Elva Reno, Nev. Fr. †15, 61 Roble
Hazzard, Carroll Camper Whittier PreL. 10, Delta Chi
Heald, Elmer Wilson Palo Alto Law gr., 554 Hawthorne-p
A. B., Stanford, 1914.
Hearle, Percy H. H. St. Louis, Mo. Phyl. 12, 19 Encina
Heaton, Laurence G. Poughkeepsie, N.Y. Chem. †12, 4 Salvatierra
Hefflefinger, Orval Jewel Tulare Law 66, 82 Encina
Heider, Otto W. Sheridan, Ore. Law gr., Acacia
A. B., Oregon, 1914.
Heller, Walter D. San Francisco Germ. 45, 66 Encina
Helmick, Walter Edmund Helena, Mont. M. E. 11, 70 Encina
[2]Helsley, Gordon Friedrich Ceres Phyl-Med. 105, 245 R'm'na-p
[2]Helwagen, Carl Wilhelmj Portland, Ore. M. E. 93, 515 Waverley-p
Henderson, Edward Santa Paula Law 100, 58 Encina
Henderson, Hugh Murphy Palo Alto M. E. 119, 551 Addison-p
[1]Henking, Frederica San Diego Graph. 44, Pi Beta Phi
Henningsen, Bertha Clara Pueblo, Colo. Math. 109, 57 Roble
Henry, Kenneth Malcolm Livermore Chem. 9, Pine Cottage
[2]Henry, Mabel Gertrude Los Angeles Math. 96, 331 Hamilton-p
Henry, William Howard Los Angeles Geol. 5, 127 Encina
Hensel, George Carl Eureka, Utah Phyl. 37, 69 Encina
[1]Henshaw, Marl Millett Evansville, Ind. Lat. 104, 660 Waverley-p
Heron, Ivan Clyde Watsonville Phyl. 15, 3 Encina
Hertel, Herbert R. Pasadena Geol. 14, Zeta Psi
Hess, Howard Clayton Watsonville Chem. 11, 3 Encina
Hess, Walter Baltimore, Md. C. E. †38, 76 Encina
Hettinger, Albert John Fowler Econ. 89, Faculty Club
Hewitt, Benjiman Roller San Jose Med. †4, 550 S. 5th, SJ-sj
B. S., Santa Clara, 1914.
Hews, Hayden Lewis Riverside PreL. 46, 8 Encina
[1]Higgins, Archibald W. Hockley, Eng. E. E. 154 540 Embar.-p
A. B., Stanford, 1915.
[1]Higgins, Preston Leroy Cupertino Law 58, Theta Delta Chi
Higgins, Ward Frank Alameda PreL. 41, Kappa Sigma
Higley, James Stephen Phoenix, Ariz. PreL. 42, Chi Psi
‡[1]Higley, Wynter Blaine Palo Alto Phys. gr., 646 Waverley-p
A. B., Stanford, 1909.
Hill, Charles Albert Moline, Kan. Law gr., 155 Encina
A. B., Stanford, 1913.
Hill, Frank Ernest Palo Alto Engl. gr., 750 Bryant-p
A. B., Stanford, 1911, A. M., 1914.

‡Deceased, January 1, 1915.

Hills, Harry Sawyer — Oroville — PreL. 57, — 146 Encina
Hinds, Joe Henry — Porterville — C. E. 88, — 424 High-p
Hinton, Frederick T. — Sierra Madre — PreL. 8, Phi Gamma Delta
Hirao, Ren — Hyogo-Ken, Japan — Econ. 72, — Japanese Club
Hirasawa, Teru Hico — San Francisco — C. E. 109, — Japanese Club
Hiratsuka, Saburo — Los Angeles — Econ. 75, — Japanese Club
[1]Hitchcock, Jeanette McC. — Tacoma, Wn. — Fl. 120, — Madrono
A. B., Stanford, 1915.
Hobson, Celesta — San Jose — Graph. gr., — 921 Addison-p
A. B., Stanford, 1915.
Hobson, Frank Alfred — Springbrook,Ore. — Min. 9, — 542 Cowper-p
[2]Hobson, HarryTownsend — Phoenix,Ariz. — Min. †, — 5 Lasuen
Hodapp, Cullom Sebastion — Oakland — Econ. 17, — 153 Encina
Hodges, George Charles — Palo Alto — Hist. 65, — 453 Channing-p
Hoefgen, Lena Brooks — Palo Alto — Graph. 78, — 221 Byron-p
Hoernig, Ottilie K. — Mountain View — Germ. 105, — Mt. View-m
Hoever, August Joseph — Willows — C. E. 21, — Theta Delta Chi
Hogg, Elton Marion — Saratoga — Chem. gr., — Saratoga-s
A. B., College of Pacific, 1912; A. M., Stanford, 1913.
[1]Hoisholt, George Greiersen — Oakdale — Hist. 121, — 347 Alma-p
A. B., Stanford, 1915.
[1]Holbrook, Lettie DeVoe — Palo Alto — Hist. gr., — 324 Emerson-p
A. B., Stanford, 1913.
[1]Holder, R. Lyle — Los Gatos — Econ. 2, — Los Gatos-l
Holland, John Connell — Roswell, N. M. — Law unc. 41, — 309 Alma-p
[2]Hollister, Ida Gertrude — San Luis Obispo — Fr. †, — 27 Madrono
[1]Hollmann, Esther Karleene — Oakland — Phyl. 57, — Madrono
Holloway, GodfreyErnest — Helena,Mont. — Min. 44, — 183 Encina
[1]Holmes, Henry Perry — San Francisco — M. E. 39, — AlphaTauOmega
Holmes, Milton L. — Hilo, H. T. — Econ. 43, — 22 Lasuen
Holt, Inezetta — Redding — Hist. gr., — 230 Emerson-p
A. B., Stanford, 1914.
[1]Holt, Jessie Muriel — Imperial — Hist. 27, — Delta Gamma
Hooker, Ora Whitley — Los Angeles — Educ. gr., — San Carlos-sc
A. B., Stanford, 1915.
Hopwood, Clyde Charles — Palo Alto — C. E. 93, — 737 Channing-p
Hopwood, Helen Frances — Palo Alto — Hist. 12, — 737 Channing-p
Horine, Theo. Marguerite — Stanford Un. — Educ. 122, — 7 Salvatierra
Horner, William Foster — Honolulu,H.T. — Econ. 43, — Sigma Chi
Horton, Harry Winters — San Diego — Law sp. unc. 35, — Delta Chi
[1]Horton, Helen Clifford — Pasadena — Germ. gr., — 54 Roble
A. B., Stanford, 1914, A. M., 1915.

Hough, Edward Stamford Oakland PreL. 12, Delta Tau Delta
[2]Hough, Ethel Robb N. Yakima, Wn. Psych., 1134 Emerson-p
Houghton, Harold Clemens Palo Alto Engl. 38, Phi Kappa Psi
[1]Houghton, Robert Arthur Santa Cruz M. E. 5, Kappa Sigma
House,EarlLaFayette ForestGrove,Ore. Engl. 122, Mirada av.
Howard, Graeme Keith Stanford Un. Econ. 37, 12 Dolores
Howard, Grenville Gates Stanford Un. Geol. gr., 12 Dolores
A. B., Stanford, 1915.
Howe, Avery John Los Altos Law unc. 35, Los Altos-l
Howe, L. Frances Long Beach Chem. 42, Gamma Phi Beta
Howe, Mollie Margaret Chicago, Ill. Lat. gr., 527 Emerson-p
A. B., Stanford, 1914.
Howes, John Gaylord Palo Alto Hist. gr., 219 Ramona-p
A. B., Stanford, 1914.
Hubbard, Adolph Herrmann San Jose C. E. 13, 642 S. 7th, SJ-sj
Hubbard, Gordon Alden Palo Alto C. E. 14, 567 Forest-p
Hubbs, Carl L. Los Angeles Zool. 75, 144 Encina
Hughes, Glenn Arthur Long Beach Educ. 73, Cardinal Club
Hulsman, Ivan M. Susanville Geol. 89, The Lodge
Hume, Dorothy Los Gatos Fr. 38, Madrono
[2]Humphrey, Cora Viola Cupertino Hist. gr., Cupertino-c
A. B., Stanford, 1914.
Hunt, Jessimine Mabelle Stanford Un. Engl. 67, 3 Salvatierra
Hunt, Marcie Stanford Un. Graph. 107, 3 Salvatierra
Hunt, Merritt Gates Boulder, Colo. Chem. 107, 96 Encina
[1]Hunt, Randolph Los Angeles Econ. sp., Zeta Psi
Hunt, William Rowsell Elko, Nev. PreL. 44, 2 Salvatierra
Hunter, Clarence Lester Redlands Phyl. 37, Theta Delta Chi
Huntington, Frances Los Altos Engl. 90, Los Altos-l
Hurley, Morris Elmer Albion Germ. 106, 310 High-p
Hussey, Horace H. Faith, S. D. PreL. †9, 22 Lasuen
Huston, James Mallernee Kobe, Japan Phyl., 904 Cowper-p
Hutchinson, Arthur John L. Palo Alto Chem. 37, Phi Kappa Psi
Hutchinson, Arthur S. San Francisco Law sp.unc.8, 955Pine,SF-sf
Hutchinson, James Sloan Palo Alto Econ. 74, 403 Kingsley-p
Huxtable, Howard Homer Campbell Econ. 97, Campbell-c
Hyatt, Antonia Sacramento Chem. 13, 53 Roble
Hyatt, Victor Sacramento Law 77, 68 Encina
Ichihashi, Shizuko Tokyo, Japan Bot. 74, College Terrace-m
Ingram, Wyatt Hawkins San Jose Math. 47, 34 Encina

Inslee, Edward Hubert Palo Alto Phys. gr., 437 Bryant-p
A. B., Stanford, 1915.
[1]Irons, Oliver Eller Los Gatos Educ. gr., Los Gatos-l
A. B., College of Pacific, 1913.
Irvine, James Los Angeles M. E. †11, 359 Emerson
Irwin, Clifton Minto Portland, Ore. C. E. 75, Chi Psi
Ives, Agnes Sherwin Palo Alto Lat. gr., 220 Emerson-p
A. B., Minnesota, 1905.
Jacob, Lina Stella Palo Alto Germ. gr., 801 Middlefield-p
A. B., Stanford, 1914.
Jacomini, Gustave Adolph Pasadena C. E. 96, 134 Encina
Jameson, Bernice Corona Med. gr., 2737 Clay, SF-sf
A. B., Stanford, 1915.
Jameson, Carol Edna Corona Chem. 57, 55 Roble
Jameson, Emily Dean Corona Hist. 114, 56 Roble
[1]Jameson, Irene Evelyn San Diego Hist. gr., Mariposa Club
A. B., Stanford, 1914.
[1]Jamieson, Roger Mills Spokane, Wn. PreL. 31, Phi Kappa Psi
Jeffers, James Sterling Los Angeles C. E. 99, Delta Upsilon
Jeffers, John Nace Los Angeles C. E. 9, Delta Upsilon
Jenkins, Leonard R. Ogden, Utah Med. gr., 2624 Calif., SF-sf
A. B., Stanford, 1913.
[1]*Jenkins, Olaff Pitt Nashville, Tenn. Geol. gr., Nashville, Tenn.
A. B., Stanford, 1913.
Jensen, Harold Lund San Francisco Med.138, 1833Laguna,SF-sf
Jensen, Norman Ramsey Santa Monica PreL. 49, Sigma Nu
Jensen, Ray Carl James Fowler Econ. 68, 707 Middlefield-p
Jepsen, Ada Elise Los Angeles Hist. 36, Mariposa Club
Job, Martha Judith Mountain View Engl. gr., Mt. View-m
A. B., Stanford, 1915.
[2]Johns,HenryVanDyke,Jr. SanFrancisco PreL., Delta Kappa Epsilon
[1]Johnson, Arthur Edward Watsonville Econ. 5, Encina
Johnson, Arthur Lockwood San Jose Law 77, 381 N. 13th, SJ-sj
Johnson, Charles Rodgers SanFrancisco C. E. 109, 11 Encina
Johnson, Donald P. Grand Rapids, Wis. Law 95, Cardinal Club
Johnson, Donald W. Fairmount, Minn. Phyl. 9, Chi Psi
Johnson, Frances Mary San Jose Eng. gr., 447 N. 2d, SJ-sj
A. B., Stanford, 1914.
Johnson, Henrick Walter Sausalito M. E. 13, 403 Alma-p
Johnson, Kathrina Boise, Idaho Eng. 75, KappaKappaGam.
Johnson, L. H. Clemmer Los Angeles PreL. 9, Delta Chi
[2]Johnson, Mildred Lorenz Pasadena Germ., 12 Alvarado

Johnson, Nellie Phyllis Republic, Kans. Engl. 12, 333 Kipling-p
Johnson, Oscar F. Mt. Vernon, Wn. Phyl.-Med. 103, 325 Ham.-p
Johnson, Robert Perry Los Angeles Phyl. 6, Delta Kappa Ep.
Johnston, Duncan McA. San Francisco Min. 64, 75 Encina
Johnston, Earl T. CottonwoodFalls,Kas. Hist. 49, The Lodge
Johnston, Faber Laine San Jose Law gr., Sigma Alpha Ep.
A. B., Stanford, 1914.
Johnston, Frank Reed San Jose Phyl. 50, 56 Encina
[1]Johnston, Petra Beatrice Redwood City Germ. gr., Redwood City-r
A. B., Stanford, 1914.
Johnston, Richard Lorimer Los Angeles PreL. 45, Theta Delta Chi
[2]Johnston, Walter Foster Everett, Wn. Econ. gr., 454 Hamilton-p
A. B., Stanford, 1914.
Johnstone, Harry Cranston Hayward PreL. 45, 4 Lasuen
Jollyman, Alice Cupertino Hist. gr., Cupertino-c
A. B., Stanford, 1905.
Jones, Elton L. Cupertino M. E. 76, 44 Encina
Jones, Henry Macy Los Angeles C. E. 28, Theta Delta Chi
Jones, Leslie Bryant Cullen Elko, Nev. Econ. sp. 67, Kappa Sigma
Jones, Philip Hanby Alhambra Chem. 39, Encina
Jones, Ralph H. Malad City, Idaho PreL. 12, 554 Hawthorne-p
Jones, Robert Alton San Francisco Med. gr., 1939 Calif., SF-sf
A. B., Stanford, 1908.
Jordan, Charles William Ouray, Colo. Geol. 62, Phi Delta Theta
Jordan, John Cuthbert Exeter Chem. 65, 90 Encina
[1]de Journel, Robert Burlingame Law 120, Phi Gamma Delta
A. B., Stanford, 1915.
Joyce, Charles Francis Los Angeles C. E. †12, Delta Tau Delta
Judah, Elizabeth M. Los Angeles Chem. 49, Alpha Phi
Jukich, Martin John Sausalito C. E. 12, 403 Alma-p
Kaboth, George Ernest Astoria, Ore. M. E. 8, 4 Salvatierra
Kahle, Richard Frederick San Diego PreL. 15, 4 Lasuen
[2]Kalfus, Joseph Leland San Luis Obispo Phyl., 202 Bryant-p
Kamp, Walter August St. Louis, Mo. Econ. 7, 40 Encina
Kawahara, John Yoshio San Francisco Econ. sp. 46, Japanese Club
Kay, Willard E., Jr. Ogden, Utah Med. gr., 2624 Calif., SF-sf
A. B., Stanford, 1912.
Keast, Fred Elton Lodi Law 66, Delta Chi
Keech, Dana Eugene Santa Ana C. E. 10, 19 Lasuen
Keeley, Helen Dwight, Ill. Educ. 103, Pi Beta Phi
[1]Keesling, Louis A. San Jose Ent. 121, Alameda av.,SJ-sj
A. B., Stanford, 1915.

Kegley, Carl Smith — Los Angeles — PreL. 15, — 141 Encina
[2]Kegley, Helen Catherine — Los Angeles — Graph., — Roble
Kegley, Hugh Paul — Los Angeles — PreL. 51, — 103 Encina
Keirns, May Elizabeth — Palo Alto — Lat. gr., — 342 Homer-p
A. B., Parsons College, 1906.
Kelker, George David — Glenwood Spgs., Col. — Phyl.-Med. 105, — 151 Encina
[1]Kellar, Herbert Anthony — Palo Alto — Hist. gr., — 915 Channing-p
A. B., Chicago, 1909.
[1]Kellar, Arnold — Portland, Ore. — E. E. 120, — 70 Encina
A. B., Stanford, 1915.
Keller, Don — Los Angeles — Econ. 16, — Phi Gamma Delta
Kelley, Rose Marie — Redlands — Fr. 10, — 24 Roble
[1]Kellogg, Benjamin Birdsall, Jr. — San Fran. — Hist. 45, — Kappa Alpha
Kellogg, Crawford McMann — Ontario — Chem. 84, — 173 Encina
Kellogg, Lila Pierce — Los Angeles — Germ. 75, — 51 Roble
[2]Kelly, Elizabeth Marguerite — Berkeley — Span., — 14 Roble
Kennedy, Clarence H. — Rockport, Ind. — Ent. gr., — 549 Cowper-p
A. B., Indiana, 1902, A. M., 1903; A. M., Stanford, 1915.
Kennedy, Margaret Lucretia — Modesto — Educ. 77, — 573 Univ., SJ-sj
[1]Kennedy, Silas Ely, Jr. — Long Beach — M. E. 14, — Alvarado Hall
Kenney, Pearl Madeline — Palo Alto — Engl. 105, — 16 Madrono
[1]Keough, Inez Nevada — Reese River, Nev. — Engl. 40, — Castilleja Sch.-p
Kerr, J. Charles — Seattle, Wn. — PreL. 10, — Cardinal Club
[2]Kerr, Mildred Lenora — Saratoga — Engl. †, — Mariposa
Kerr, Ruby Meta — San Jose — Hist. 92, — 312 S. 9th, SJ-sj
[2]Kerwin, Margaret Hope — Salt Lake City, U. — Law gr., — 30 Roble
A. B., College of Pacific, 1914.
Kester, Edgar Crossman — Everett, Wn. — PreL. 43, — Phi Delta Theta
Ketcham, Donald Edward — Santa Maria — Chem. 32, — 122 Encina
Ketman, Mary Sophia — Palo Alto — Educ. 113, — 650 Waverley-p
Kieffaber, Geo. Washington — Lordsburg — Educ. gr., — 532 Forest-p
A. B., Mt. Morris, 1911.
Kimball, Elena Sophia — Eureka — Educ. gr., — 48 Roble
A. B., Stanford, 1915.
Kimber, Arthur Clifford — Palo Alto — PreL. 12, — 305 Lytton-p
Kimber, John Evans — Palo Alto — PreL. 38, — 305 Lytton-p
Kincaid, George Clark — Manila, P. I. — PreL. 8, — Phi Gamma Delta
King, Marion Reginald — Porterville — Med. gr., — 2345 Union, SF-sf
A. B., Stanford, 1914.
King, Melissa — Palo Alto — Hist. 13, — 435 Homer-p
King, Percy Ensign — Napa — PreL. 46, — Delta Tau Delta
King, Thomas Richard — Los Angeles — C. E. 29, — Alvarado Hall

King, Vernon Leslie — Petaluma — Geol. 81, 181 Encina
Kingsbury, Jere Morrell — Los Angeles — C. E. 106, 915 Channing-p
[1]Kinnear, Leela Bessie — San Jose — Educ. 72, 431 N. 4th, SJ-sj
Kinnear, Lloyd Sumner — San Jose — M. E. 47, 431 N. 4th, SJ-sj
Kinney, Raymond Harold — Palo Alto — Hist. 10, 765 Channing-p
[2]Kirksey, Charles Grady — Palo Alto — Econ., 706 Cowper-p
Kirksey, Morris Marshall — Palo Alto — Phyl. 7, 706 Cowper-p
Kiser, Fay Wallace — Grants Pass, Ore. — Econ. 79, 119 Encina
Kistler, Ray Henry — Covina — Phyl. 111, 182 Encina
Kistler, Roy Emanuel — Covina — E. E. 115, 156 Encina
Kitagawa, Kay Jiro — Kioto, Japan — Anat. gr., 1400 Waverley-p
A. B., Stanford, 1914.
[1]Knabe, Harry — Jersey City, N. J. — C. E. sp. 10, 559 Cowper-p
Knapp, Florence — Portland, Ore. — Econ. 42, Pi Beta Phi
[1]Knapp, Meredith Elizabeth — Azusa — Hist. 121, LangworthyClub
A. B., Stanford, 1915.
Knappe, Jas. RussellDutton — Aberdeen, Wn. — Phyl. 19, 559 Cowper-p
Kneass, Edward Daniel, Jr. — San Fran. — Engl. sp. 11, PhiDeltaTheta
Knollin, Ernesto Ray — Stanford Un. — Educ. gr., 29 Encina
A. B., Stanford, 1914.
Knollin, Herbert Edward — Stanford Un. — Educ. gr., Madrono
A. B., Stanford, 1911.
Knox, Bertha Miles — Palo Alto — Graph. 80, 751 Channing-p
Knox, Fannie Mapes — Palo Alto — Math. 12, 751 Channing-p
Knox, Nellie D. — Palo Alto — Hist. 103, 751 Channing-p
Koda, Kichiro — Yamaguchi, Japan — Phyl. sp. 44, Japanese Club
Koerner, Andrew — Portland, Ore. — Econ. 48, Kappa Sigma
Kohlmeier, Carl Luhring — Los Angeles — Econ. 17, 359 Emerson-p
Kohner, Oscar — Santa Clara — C. E. 64, Santa Clara-sc
Krehbiel, Paul Gerhard — Reedley — Hist. 72, 78 Encina
Kreps, Helen Katharine — Palo Alto — Germ. 107, 1129 Emerson-p
Krohn, Robert, Jr., — Portland, Ore. — Econ. 73, Kappa Sigma
Kuhn, Orta Edward — San Francisco — Med. gr., 2211 Calif., SF-sf
A. B., Baker, 1906.
Kusama, Yoshio — Nagano Ken, Japan — Phyl. 76, 403 Kingsley-p
Kusunoki, Miyozo — Palo Alto — Hist. gr., 27 Salvatierra
A. B., Stanford, 1914.
[1]Kyle, Edythe Mary — Burlingame — Engl., Burlingame-b
Kyle, Marion George — Portland, Ore. — Geol. 16, Beta Theta Pi
Lachmund, Harry Gray — Palo Alto — Bot. 73, Alpha Tau Omega
Lachmund, Otto Gray — Palo Alto — PreL. 40, Bryant&Ten'son-p

La Fetra, Geraldine Inez	Glendora	Span. 107,	Kap.AlphaTheta
La Fetra, Gladys Adelaide	Los Angeles	Span. 99,	Alpha Phi
Laine, Harry N.	San Francisco	Econ. sp. 61,	Sigma Al. Ep.
[2]Lakin, Ruth Caroline	Palo Alto	Hist.,	483 Addison-p
Lander, John Augustus	Coalinga	M. E. 35,	110 Encina
Landreth, Harold Brooks A. B., Occidental, 1912.	Pasadena	Law gr.,	Phi Gamma Delta
Lane, Paul Vaux	Van Nuys	C. E. 75,	Stanford Inn
Lang, Neunert	Portland, Ore.	M. E. 15,	Pine Cottage
[1]Langlois, Edna A. B., Stanford, 1915.	Ritzville, Wn.	Fr. 123,	Madrono
LaPeire, George Warren	Palo Alto	Geol. 80,	436 Hamilton-p
Larimer, Robert Emmett	Chariton, Ia.	Econ. 76,	Delta Tau Delta
Larsen, Ira Henry	San Francisco	C. E. 5,	Kappa Sigma
Laskey, Helen Frances	Los Angeles	Lat. 114,	10 Roble
[1]Lasky, Bernard H. A. B., Stanford, 1913.	San Francisco	Min. gr.,	Encina
Latshaw, Max	Palo Alto	Chem. 103,	543 Byron-p
Lawrence, William Beverley	Millbrae	Bot. 7,	Millbrae-m
Lawson, Iver Norman, Jr.	San Diego	M. E. sp. 32,	131 Encina
[1]Leach, Emery Eric	Los Angeles	Educ. 14,	4 Salvatierra
Leaf, Edward Glenn, Jr.	Porterville	PreL. 48,	34 Encina
Leard,Frank Jacques	Great Falls,Mont.	PreL. 46,	Delta Chi
Ledyard, Helen Bell	Pasadena	Hist. 46,	KappaKappaGam.
Lee, Gladys Margaret A. B., Stanford, 1914.	Los Angeles	Span. gr.,	Madrono
[1]Lee, Margaret Gill	Spanish Fork, Utah	Engl. 121,	1146 Waverley-p
[1]Lee, Paul Frantz	Spanish Fork, Utah	M. E. 13,	643 High-p
Lee,RussellVanArsdale	Span.Fork,Utah	Chem. 63,	635 Bryant-p
Lee, Wah Seyle	Canton, China	Geol. 118,	318 Emerson
Leh, Clarke Franklin	San Jose	M. E. 41,	133 Encina
Leland, Percy Earl	Dixon, Ill.	Law 51,	Kappa Alpha
[1]Leonard, Katherine	Los Angeles	Math. 37,	Alpha Phi
LeSuer, Dorothy	Palo Alto	Graph. 13,	830 Cowper-p
Levi, Melbourne	Hoquiam, Wn.	PreL. 15,	525 Forest-p
Levy, Gaston Jack	San Mateo	Chem. 82,	San Mateo-sm
Levy, Germaine J.	San Mateo	Fr. 26,	San Mateo-sm
Levy, Harold Maurice	Reno, Nev.	Engl. 83,	30 Encina
Levy, Karl Riffle A. B., Stanford, 1913.	Los Angeles	Law gr.,	64 Encina
Levy, Paul Mark A. B., Stanford, 1913.	Reno, Nev.	Chem. gr.,	30 Encina

[1]Lewis, Edna Branham Pacific Grove Graph. 120, Mariposa Club
A. B., Stanford, 1915.
Lewis, Frances Mays Palo Alto Graph.67, 319Middlefield-p
[2]Lewis, Harold Cushman Fowler PreL. †, Sigma Alpha Ep.
Lewis, Howard Wesley Los Angeles M. E. 47, 132 Encina
Lewis, John Kent San Diego Phyl. 13, 4 Lasuen
[2]Lewis, Walter Kinney Riverside Law 84, 183 Encina
Libis, Ethel Melrose Hollywood Fr. gr., 66 Roble
A. B., Stanford, 1913.
Licking,Wm.Errol BattleMountain,Nev. PreL. 47, 88 Encina
Lierle,DeanMcAllister Marshalltown,Ia. Phyl. 4, Cardinal Club
Likely, Robert Donald Ukiah M. E. 49, 515 Waverley-p
Lillie, Ralph Dougall Monterey Phyl. 53, 171 Encina
Linden, Charlotte Smith San Francisco Med.gr., 1100Dolores,SF-sf
B. S., California, 1913.
Ling, Homer John Oakdale M. E. 102, 53 Encina
[2]Ling, Ping Ho-nan, China Educ. †, 318 Emerson
[1]Lingo, Oskar Roy Los Angeles Germ. sp. 43, Stanford Inn
Linn, George Irving Santa Ana Chem. 14, 12 Cabrillo
Liversidge, Esther Serena Los Angeles Graph. 63, Alpha Phi
Locke, Charles Edward, Jr. Los Angeles Phyl. 79, Delta Tau Delta
Locke, John Loor Seattle, Wn. PreL. 9, Alvarado Hall
Locke, Lydie Margaret Los Angeles Engl. 110, Kap.AlphaTheta
Locke, Ruth Wood Los Angeles Engl.gr., KappaAlphaTheta
A. B., Southern California, 1912.
Lockwood,RolandMarquam Portland,Or PreL. 34, 126 Encina
Loder, Altha Frances Palo Alto Phyl. 41, 426 Florence-p
Loel, Wayne Frederick San Francisco Geol. 60, 100 Encina
Logan, William Anthony Mayfield Law gr., Mayfield-m
A. B., Stanford, 1914.
Long, Ruth Hayward Educ. 51, Gamma Phi Beta
Looney, Jerry Thurman Palo Alto PreL. 54, 416 Webster-p
Loop, Mabel Frances Los Angeles Engl. 102, 25 Madrono
[1]Lord, Walter Vincent South Pasadena PreL. 23, 18 Alvarado
[2]Lorentzen, Kay Gustave San Francisco Med. gr., 1356 Post, SF-sf
A. B., Beloit, 1905.
[2]Lormer, Elizabeth Bernice Pasadena Germ., 49 Roble
Lorraine, Ruth Sayre Paris, France Law 113, Gamma Phi Beta
Losh, William Jackson Mill Valley Econ. 43, Theta Delta Chi
Lotz, Cyril Clyde San Jose Law gr., 116 S. 9th, SJ-sj
A. B., Stanford, 1914.
Loucks, Charles Ernest Mountain View M. E. 45, MountainView-m

Loud, Harold Lester St. Louis, Mo. Law gr., Beta Theta Pi
A. B., Southern California, 1913.
Love, Ernest Alexander Prescott, Ariz. M. E. 15, 196 Encina
[2]Low, Apau Paul Honolulu, T. H. C. E. gr., 318 Emerson
A. B., Stanford, 1914.
Lucy, Harold San Francisco Chem. sp. 64, 251Emerson-p
Luhrs,Geo.HenryNicholas Phoenix,Ariz. PreL. 16, 22 Encina
Lund, Henry Joseph San Jose Zool. 17, 526 Spencer, SJ-sj
Lundkvist, Emil Alexander Palo Alto Engl. gr., 412 Cowper-p
Gr., Bethel Seminary, Stockholm, 1906.
Lyman, George Byron Yuba City Min. 101, 166 Encina
Lyman, Timothy Eau Claire, Wis. Med.gr., 2018Buchan.,SF-sf
A. B., Dartmouth, 1903.
Lynch, Leslie Gordon Los Angeles Econ. 12, Kappa Sigma
Lynch, Windsor Chase Boise, Idaho Econ. 111, Cardinal Club
Lynn, Wright Andrew Hollister PreL. 27, 24 Encina
Lyon, Leonard Saxton Los Angeles PreL. 14, 43 Encina
Lyon, Percy Tufts Hollywood M. E. 54, Zeta Psi
Lyon, William Penn Edenvale PreL. 38, 37 Encina
Lyons, Frank Portland, Ore. PreL. 12, 11 Salvatierra
Lytle, Robert Sidney Los Angeles PreL. 46, Kappa Sigma
McAdam, Robert Pasadena Geol. 13, Beta Theta Pi
McAndrew, Alexander Nordhoff C. E. gr., Zeta Psi
A. B., Yale, 1913.
[1]McArthur, Robert Alexander San Jose PreL. 12, Theta Delta Chi
McCabe, Edward Everett Palo Alto Phys. 104, 636 Waverley-p
McCaleb, Charles Garnett Phoenix,Ariz. PreL. 12, 5 Lasuen
McCann, Reva Irene Long Beach Engl. 104, 61 Roble
McCarthy, Francis Justin San Francisco Med. †100,2306Vallejo,SF-sf
A. B., St. Mary's, 1911.
McCarthy, Pearl Lydia Honolulu, T. H. Fr. 107, 55 Roble
McChrystal, Arthur J. Salt Lake City,U. Chem. 104, Sigma Chi
McClean, Harry Justus Long Beach Law 109, 104 Encina
McClintock, Miller L. Long Beach Engl. 13, 4 Lasuen
McCloskey, Downs Durango, Colo. Min. 10, Delta Upsilon
McCloskey, Paul Norton Salada Beach Law 100, Delta Kappa Ep.
McClung, Ryland Eugene Portland,Ore. Econ. 13, 900 Waverley
[1]McClure,RichardAlfred Nashville,Tenn. Phyl. †13, Phi Delta Theta
McClurg, Verner Blackmore LosAngeles C. E. 96, Phi Delta Theta
McColloch,FrankCleveland Baker,Ore. PreL. 34, Kappa Sigma
McComb, Marshall Francis Los Angeles PreL. 52, Delta Chi
McConnel, Fredk. Jordan Brisbane,Aus. C. E. 52, 88 Encina

[1]McConnel, Mary Emma	Palo Alto	Econ. 121,	661 Gilman-p
A. B., Stanford, 1915.			
McCord, Emily E.	Merced	Econ.107,	LangworthyClub
McCormack, Charles Fred.	Spokane,Wn.	C. E. 108,	55 Encina
McCormack, Lincoln, Jr.	Medford, Ore.	C. E. sp. 7,	Sigma Nu
McCoy, Margaret Lois	Los Angeles	Engl. 101,	Gamma Phi Beta
McCreary, Laura May	Hanford	Engl. 41,	Mariposa Club
McCue, Gladys Ethel	Palo Alto	Math. 76,	1451 Cowper-p
McDermoth,Alanson W.	Aberdeen,Wn.	Chem. 9,	559 Cowper-p
McDermott, Elizabeth Lee	Los Altos	Graph. 65,	Los Altos-l
McDermott, Louis William	Los Altos	C. E. 29,	Los Altos-l
MacDougal, Alice	Carmel	Engl. 75,	84 Roble
McEuen, Albert Harry	Los Angeles	Geol. 38,	Beta Theta Pi
[1]McFarlane, John Alvin	Elko, Nev.	Phyl.,	2 Salvatierra
McGee, Marguerite Graves	Pasadena	Fr. 75,	32 Roble
McGilvray,MalcolmCanmore	StanfordU.	Geol. 29,	Escondita Cottage
McGonigle, Rose Vibiana	Los Angeles	Hist. gr.,	39 Roble
A. B., Stanford, 1914.			
McGrath,FlorenceKathleen	Boulder,Col.	Hist. 104,	5 Roble
Machado,John Homen	San Luis Obispo	Law 82,	147 Encina
McHale, Myra Briggette	Palo Alto	Hist. 69,	727 Webster-p
McInerny, Arthur Jerome	Los Angeles	Engl. sp. 63,	DeltaTauDelta
Macintyre, Arthur Donald	Los Angeles	C. E. 81,	52 Encina
McIntyre, Wilmot James	Glendale	Chem. 12,	Theta Xi
[2]Mack, Arthur McLure	Oakland	Econ.,	334 Lincoln-p
Mackall, Murray R.	Tacoma, Wn.	Law sp. 41,	SigmaAlphaEp.
McKay, Wilbur Martland	Fresno	Chem. 11,	Chi Psi
[2]McKee, Donald	San Francisco	C. E.,	Theta Delta Chi
Mackel, James P.	Los Angeles	PreL. 49,	Delta Chi
McKenna, John Shore	Lemoore	Geol. 76,	Mountain View-m
McKenna, Mary Susan	Lemoore	Econ. 14,	24 Roble
Mackenzie, AndrewNicholls	LosAngeles	Geol. 61,	Acacia
[2]Mackie, Donald Wolcott	Bradford, Pa.	M. E. †,	603 Waverley-p
McKim, Horton Albert	Palo Alto	M. E. 43,	581 Hawthorne-p
McKinney, Verne Willson	Palo Alto	C. E. 112,	620 Waverley-p
McKnight, Geraldine	Pasadena	Econ. 16,	Pi Beta Phi
McLachlan, James Douglas	Pasadena	PreL. 43,	Zeta Psi
McLaughlin, DorothyBall	LamandaPark	Fr. 131,	Delta Delta Delta
McLaughlin, Roy Parmelee	Redwood	Geol. gr.,	Redwood City-r
A. B., Stanford, 1902.			
McMahon, Harry Eugene	Pacific Grove	Chem. 72,	Campus School

McManus, Joseph A. Anaconda, Mont. Chem. 62, 359 Emerson
McMillan, Percy Walton San Jose C.E.sp.58, 411 S. 11th, SJ-sj
McNabb, Mary Vera San Bernardino Engl. 106, Pi Beta Phi
[2]MacNair, Robert Leslie Warren, Ohio Phyl., Stanford Inn
[1]McNary,ClarksonDeweese Tempe,Ariz. Geol. 7, 199 Encina
McNeal, Thomas Carl Los Angeles C. E. 47, 611 Alma-p
McNees, Marjorie A. Whittier Span. 75, Langworthy Club
[2]McNulty, Hugh William Fresno Geol.sp.20, SigmaAlphaEp.
Macomber, Forrest Devore IdaGrove,Ia. Law 62, Cardinal Club
McPherson, James Douglass San Jose M. E. 13, 54 Settle, SJ-sj
McPherson, Kenneth Rees San Jose C. E. 106, 54 Settle, SJ-sj
McQuown, Lillian Lucile Porterville Fr. 81, Madrono
Macrum, Natalie Los Altos Lat. gr., Los Altos-l
A. B., Stanford, 1914.
McSherry, Ralph Caylor Dayton, Ohio Engl. 79, 154 Encina
[1]Macy, Lloyd Campbell Chem. 79, 96 Encina
Mader, Constance Marie Santa Rosa Germ.gr., 207 Hawthorne-p
A. B., Stanford, 1914.
Maines, Harriett Elizabeth Los Angeles Lat. 105, Alpha Omicron Pi
Maingueneau, Eugenie F. San Jose Fr.81, 525WSanCarlos,SJ-sj
Malcolm, Vernon Young Palo Alto PreL. 8, 379 Everett-p
Malm, Walter R. San Francisco Min. 56, Palo Alto Hotel-p
Maltby, Joseph McKinley Long Beach Law 70, 78 Encina
[1]Manning, Paul DeVries SouthPasadena Chem. 105, 25 Encina
Maple, Ray Cowser Glasford, Ill. Econ. gr., Sigma Chi
A. B., Stanford, 1915.
Marble, Russell Price Palo Alto Law 115, 339 Emerson-p
Marcus, Anita San Francisco Math. 46, Delta Delta Delta
Marino, Herbert Daniel Stockton Phyl. 30, 171 Encina
[2]Markley, Chandler Hamilton San Jose C. E. 76, 420 S. 5th, SJ-sj
Marks, Maude Helen Palo Alto Germ. gr., 1028 Bryant-p
A. B., Mt. Holyoke, 1910.
Marshall, Etta Louise Oakland Phyl. 101, 459 Hamilton-p
Marshutz, Herbert Stanton Los Angeles PreL. 46, 107 Encina
Marston, Homer Eugene San Rafael Phyl. 9, 275 Hamilton-p
[1]Martel, Alfred, Jr. Mountain View Germ. 27, Phi Kappa Psi
Martin, Edward Richard Watsonville PreL. 11, 2 Encina
Marx, Roland Grotecloss Palo Alto E. E. gr., 357 Kingsley-p
A. B. Stanford, 1911.
Mason, Florence McLaine Palo Alto Engl. 14, 555 Kellogg-p
Masters, Edward Wilbur Portland, Ore. Geol. 11, 136 Encina
Mathews, Margaret Mary Eureka Fr. 63, Madrono

[1]Matsushita, Sotaro Los Angeles Econ. 45, 733 Ramona-p
Mattei, Bert Chester Los Olivos Geol. 27, Phi Delta Theta
Maurer, Loche Morton Los Angeles Econ. gr., Kappa Alpha
A. B., Stanford, 1914.
Maurer, Rix Alameda M. E. 47, Beta Theta Pi
[1]Maury, James Gernand Denver, Colo. M. E. 31, 90 Encina
[1]Mayberry, John Newton Antioch Econ. 15, 148 Encina
Mayeda, Isamu Chiba Ken, Japan M. E. 80, Japanese Club
[2]Maynard, Elizabeth Stanley San Jose Hist. †, 593 S. 6th, SJ-sj
[2]Meacham, Ray Alexander Long Beach PreL. 41, Cardinal Club
Mead, James Enoch Pasadena Law 69, Delta Upsilon
[1]Meginity, Mary Alma Oakdale Engl. gr., 324 Emerson-p
A. B., College of Pacific, 1913.
Meinhard, Arthur R. New York, N. Y. Chem.sp.70, DeltaTauDelta
Melcon, Zenas K. Kingsburg Geol. 57, 95 Encina
Melhorn, William Buchtel San Diego Graph., Kappa Alpha
Mellinger,TheodoreJas. NorthSalem,Ind. Bot. 12, 331 Lincoln-p
Melom, Carl Marcus Mayfield Fr. gr., College Terrace
B. L., Minnesota, 1901, A. M., 1902.
Melvin, Bradford Morse San Francisco PreL. 29, Phi Delta Theta
Mendenhall,GertrudeMary Denver,Colo. Graph. 77, Pi Beta Phi
Metlen, Bruce Joe Dillon, Mont. Law sp., HotelAlexandria-p
Metz, Dorothy A. Sherman, Tex. Econ. 33, 9 Salvatierra
Meyer, Alfred Falck San Francisco Law 110, 168 Encina
Meyer, Charles Hillegass Menlo Park C. E. 74, Menlo Park-m
Meyer, William R. Redwood City M.E. †18, AlphaTauOmega
Meyers, Robert Koehler Tulare PreL. 12, 139 Encina
[1]Miano, John Norton Palo Alto Educ. gr., 356 Kingsley-p
A. B., Stanford, 1909.
Millard, Bryant Tilden San Jose C. E. 37, 20 Encina
[2]Miller, Alvin William Portland, Ore. PreL., 11 Salvatierra
Miller, Clifton McPherson Santa Cruz Law 102, Delta Tau Delta
Miller, Douglas Delmer Santa Cruz Econ. 10, Delta Tau Delta
[1]Miller, Herbert Lemuel Long Beach Econ. 43, Kappa Alpha
Miller, Herman Potts Jr. Harrisburg, Pa. M. E. 57, 117 Encina
Miller, Horace Baker Rivera Econ. 70, 68 Encina
[1]Miller, James Andrew San Francisco Law 120, Acacia
A. B., Stanford, 1915.
Miller, Mabel Alta Dinuba Engl. 59, 638 Channing-p
Miller, Wayne Leslie Palo Alto PreL. 46, 580 Addison-p
Millett, George Wilber Sunnyvale Med. gr., 2418Wash.,SF-sf
A. B., Stanford, 1914.

Milliken, Carl Shields Denver, Colo. Law 50, Phi Gamma Delta
[1]Mills, Curtis Logan Palo Alto Econ. sp., Sigma Nu
Mills, Zetta Mabel Palo Alto Hist. 69, 534 Forest-p
[1]Millspaugh, Helen Howard Hollywood Graph.120, Kap.AlphaTheta
A. B., Stanford, 1915.
Minssen, Herman Sterling, Ill. Math. 24, 660 Waverley-p
Misrow, Jogesh Chander Calcutta, India Econ. gr., 515 Waverley-p
A. B., Stanford, 1914.
[2]Missner,FrankRoyStewart SanFrancisco Med. gr., 2320 Clay, SF-sf
A. B., Stanford, 1914.
Mitamura, Matakichi Hiroshima, Japan Chem.sp.114, 733 Ramona-p
Mittenthal, Norman Jerome Fresno M. E. 77, 13 Encina
Miwa, Tsusukichi San Francisco M. E. sp. 103, JapaneseClub
[1]Moffatt,JamesStanley Birmingham,Ala. Law gr., Encina
A. B., Chicago, 1912; J. D., Stanford, 1915.
Montgomery, Marion Cath. Los Angeles Hist. 106, Delta Delta Delta
Moore, Alice Los Gatos Engl. 65, Alpha Omicron Pi
Moore, Charles Dunn Ouray, Colo. PreL64, AlexandriaHotel-p
Moore, Neil Preston Palo Alto Chem. gr., 564 Hamilton-p
A. B., Stanford, 1914.
Moore, Sidney Fremont Monrovia Engl. 47, 12 Roble
Moore, William Homer Selma Phyl-Med. 117, 94 Encina
[1]More, Edwin Reynolds Rosedale, Wn. C. E. 87, 534 Forest-p
Moreland, Walter James Oakland Phyl.-Med. 97, 151 Encina
Morgan, Arthur Leon. Canon City, Colo. M. E. 56, 166 Encina
Morgan, Joseph Richardson Los Angeles Engl. 61, Kappa Alpha
[2]Morgan,MadeleineBurleigh SantaBarb. Engl. 55, 63 Roble
Morgan, Maurice Ed. Bridgeport, Conn. Geol. 39, 841 Bryant-p
Morgan, May Gladys Canon City, Colo. Engl. 108, Mariposa Club
[1]Morgan, William Irving Sonora Germ. 22, 10 Encina
Morin, Harriette Lucile San Francisco Bot. gr., 66 Roble
A. B., Stanford, 1914.
[2]Moritani, Tomikichi Palo Alto Econ. sp., 733 Ramona-p
Morosco, Albert Harold San Diego Hist. 69, Delta Chi
Morris, Dorothy Blair Palo Alto Hist. 16, 705 University-p
Morrison, Harold Indianapolis, Ind. Ent. gr., 131 Encina
A. B., Cornell, 1914.
[2]Morrison, Lily Covelo Zool. †, 23 Madrono
Morrow, Wilbur Emmet Portland, Ore. PreL. 14, 11 Salvatierra
Morse, Genevieve Lodi Germ. 80, AlphaOmicronPi
Morton, Frank Willard San Francisco Germ. gr., 15 Salvatierra
A. B., Stanford, 1914.

Mosher, Anita Allene — Palo Alto — Hist. 27, 365 Channing-p
[1]Mosher, Hugh Harold — San Jose — Chem.gr., 201 S. 16th, SJ-sj
A. B., Stanford, 1913, A. M., 1914.
Mott, Rodney Loomer — San Jose — Econ. 48, 507 S. 2nd, SJ-sj
Moul, Charles Thomas — Oakland — Med†82, 365 10th, Oakland-o
A. B., St. Mary's, 1911.
Moule, Manley Axtell — Cleveland, O. — Econ. 35, 148 Encina
Mudd, Seeley, Greenleaf — Los Angeles — Chem. 62, Delta Tau Delta
Mukaiyama, Masaha. P. — Hiroshima, Jap. — Math. gr., 733 Homer-p
A. B., College of Pacific, 1914.
Mukerji, Dhan Gopal — Palo Alto — Phil. gr., 861 Ramona-p
A. B., Stanford, 1914.
Mulford, Charles Roe — Peoria, Ill. — Econ. 95, Sigma Chi
Mullaly, Edward Francis — Vallejo — Med. 81, 559 Page, SF-sf
[1]Mullen, Edmond Williams — Los Angeles — M. E. †24, Zeta Psi
Mulock, Fred S. — San Gabriel — E. E. 114, 156 Encina
Murphy, Frank Edward — Hollister — Phyl. 43, Sigma Chi
Murray, Alfred Conklin — Woodland — Law unc. 118, 116 Encina
Murray, Francis King — Palo Alto — Greek 45, 1019 Bryant-p
Murray, Frederick Seymour — Palo Alto — Graph. 75, 1019 Bryant-p
Murray, George Harvey — Hanford — Law 107, Sigma Nu
Murray, Virginia — San Gabriel — Med. gr., 1040 Bush, SF-sf
A. B., Stanford, 1914.
Myers, Jesse Lincoln — Toledo. Ohio — M. E. 44, 11 Salvatierra
Myers, Lewis Allen — Whittier — Engl. 73, 22 Lasuen
[1]Nagel, Else Helen — Palo Alto — Econ. 66, 356 Addison-p
Nagel, Gunther W. — Palo Alto — Phyl. 44, 356 Addison-p
Nagel, Minna Ivy — Palo Alto — Hist. 107, 356 Addison-p
Nakamoto, Frank Yosh. — Tokyo, Japan — Econ. 44, 733 Ramona-p
[1]Nakayama, Shonosuke — Tokyo, Japan — Ent. gr., 274 University
A. B., Stanford, 1914.
Nam, Ong Yet — San Francisco — Chem. 102, 318 Emerson
Narvestad, Olga M. — Spokane, Wn. — Hist. 14, Delta Delta Delta
[2]Naylor, Sarah Rhoda — Holton, Kas. — Engl. gr., 14 Roble
A. B., Kansas, 1912.
Neal, Roland — San Jose — Chem.gr., 771Ch'pm'n, SJ-sj
A. B., Cornell College, 1904, A. M., 1907.
Needham, Roy Elwood — Tracy — Law 77, Delta Chi
Neill, Ernest Lafayette — Los Angeles — E. E. 100, Acacia
Neimeyer, Ruth K. — Duluth, Minn. — Phil. 104, Gamma Phi Beta
Nelson, Clarence — Victor, Colo. — Law 78, Acacia
Neuner, Clarence Martin — Los Angeles — Geol. 9, Delta Upsilon

Newberry, Marion Helen Los Angeles Span. 43, Alpha Phi
Newcomer, John Ritchie Phoenix, Ariz. PreL. 15, 92 Encina
Newhouse, Rolley Wilson Coachella PreL. 10, 5 Lasuen
Newnan, Eva May Mountain View Lat. 111, Mountain View-m
Nichols, Bernard Charles El Centro Law gr., 431 Lytton-p
A. B., Stanford, 1900.
Nichols, Charles Fenton San Francisco Law gr., 158 Encina
A. B., Stanford, 1913.
[2]Nichols, Helen Blanche Pasadena Germ., 12 Alvarado
Niebel, Herbert Lee Cleveland, O. C. E. gr., 335 Lytton-p
A. B., Stanford, 1914.
Nielsen, John William San Luis Obispo Med. gr., 309 Ramona-p
A. B., Washington State College, 1911.
Niepp, Frederick Antone Ukiah E. E. 80, 550 Kingsley-p
Niklason, Clarence R. Audubon, Ia. Phyl. 39, Cardinal Club
Nisbet, John McHenry Upland Geol. 76, Theta Delta Chi
Nishimura, Hatsutaro San Francisco M. E. 16, 1 Lasuen
Nix, Armin William Stanford Un. Engl. †15, 93 Encina
Nixon, Carey H. Onawa, Ia. Geol. 100, Delta Tau Delta
Noddin, Ralph Ernest Los Gatos Bot. gr., Los Gatos-t
B. S., California, 1912.
Nolan, Frank L. Palo Alto Bot. 56, 850 Ramona-p
[1]Nomura, Hanji Kobe, Japan Engl. gr., 29 Salvatierra
A. B., Stanford, 1914.
Noonan, Wm. Francis Glenwood Spgs, Col. Law 77, 115 Encina
Nordmann, Bernhard Fredk. Sacramento PreL. 50, 721 Emerson-p
[1]North, Frances Cupertino Engl. 122, Cupertino-c
A. B., Stanford, 1915.
Norton, Bertha F. Rock Creek, Idaho Hist. 107, Mariposa Club
Norton, Eleanor Long Beach Hist. 38, Gamma Phi Beta
Norton, John Kelley Palo Alto Educ. 78, 642 Webster-p
Norton, Willis Sherwood Stockton M. E. 69, Sigma Alpha Ep.
Norviel, Scott LaMar Phoenix, Ariz. PreL. 46, Delta Chi
Nowell, Patterson Dana Tulare Law gr., 125 Encina
A. B., Stanford, 1913.
[1]Nusbaum, Emanuel Rhodes Colton Greek gr., 542 Cowper-p
A. B., Stanford, 1914, A. M., 1915.
Oaks, Ernest Lester Escondido M. E. 41, 31 Encina
Oberg, Stanford Wilbur Riverside C. E. 39, Theta Xi
Oberlé, Eugene John Palo Alto Fr. 101, 611 Bryant
O'Brien, Ruth Hayes Sunnyvale Engl. 79, Delta Delta Delta
Obrikat, Edward Robert Alhambra C. E. 106, 143 Encina

Obrikat, Victor Alhambra Geol. 7, 143 Encina
O'Connell, Francis Anthony Mt. View Law 97, Mountain View-m
[1]Ogden, Laurence Armstead Bakersfield E. E. 87, Phi Delta Theta
Olcese, Elsie Agnes Merced Educ.109, KappaKappaGam.
[1]Oliver, Myron Angelo Monterey Graph. 103, 159 Encina
Oliver, Robert Watson Los Angeles Econ. 11, Delta Upsilon
Olmsted, Frank Osburn Los Angeles M. E. 91, Delta Upsilon
Olmsted, Margaret Stanley Los Angeles Zool. 14, KappaAlphaTheta
Olmsted, Raymond Albert Fresno M. E. 29, Theta Delta Chi
Olsen, Harry Palo Alto C. E. 105, 321 Fulton-p
Olsen, John Palo Alto Graph. 106, 321 Fulton-p
Olsen, Louis Palo Alto C. E. gr., 321 Fulton-p
A. B., Stanford, 1914.
O'Neill, Paul Meyer Pasadena Geol. 31, Beta Theta Pi
Oppenheimer, Ruth Spokane, Wn. Chem. 67, DeltaDeltaDelta
Ordway, Frank Aaron Monterey PreL. 10, 159 Encina
Orme, Charles Henry Phoenix, Ariz. Law 72, Delta Upsilon
Ostrander, BeatriceElaine TwinFalls, Ida. Engl. 14, 88 Roble
Ostrander, Justus Marvin Hollywood Econ. 105, 76 Encina
[2]Otis, Arthur Sinton Pasadena Educ. gr., 2 Lasuen
A. B., Stanford, 1910.
Otterson, Otto Harold Post Falls, Ida. M. E. 12, 526 Waverley
[1]Otto, Alfred Clay Los Angeles Geol. 23, Sigma Alpha Ep.
Overacker, Louise St. Helena Econ. 108, 63 Roble
Overacker, Ray Howard Palo Alto PreL. 27, 331 Ramona-p
Overman, Helen Doris Santa Barbara Bot. 91, 36 Roble
Owen, Ethel Los Gatos Med. gr., 2737 Clay, SF-sf
A. B., Stanford, 1914.
Owen, Richard Lewis Palo Alto Chem. 30, 151 Addison-p
Owens, William Brownlee San Jose Law 121, Delta Chi
[1]Oyen, Ariadne Minerva Everett, Wn. Germ. 73, Delta Delta Delta
Oyster, Alfred Joseph Stanford Un. Econ. 62, Delta Upsilon
[2]Packard, Henry Jessup Ontario Geol. gr., Encina
A. B., Stanford, 1911.
[1]Palm, Arthur William Sacramento Law sp. 60, 18 Alvarado
Parker, Herbert Colvin San Bernardino M. E. 46, Sigma Chi
Parker, Nora Helen San Bernardino Engl. 108, Kap.AlphaTheta
Parkinson, Mary Los Angeles Hist. 104, Delta Gamma
Parsons, Clarence Wilbur Coalinga C. E. 23, 89 Encina
Partridge, Joseph Arlington Nampa, Ida. Law 111, 111 Encina
Patterson, Glenn Gardner Marengo, Ill. Econ. †1, 19 Lasuen
Patterson, Mary Aubrey Imperial Germ. †15, Delta Gamma

[1]Patterson,PhillipWoodworth Salem,Or. PreL., Chi Psi
Paul, Forest E. Pacific Grove Econ. †12, The Lodge
Paul, William Glàe Wickenburg, Ariz. Law 62, Delta Tau Delta
Paulsen, Abby Belle Palo Alto Engl. 12, 602 Waverley-p
Paulsen, Jasper William, Jr. Palo Alto Geol. 51, 602 Waverley-p
Paulson, John Edwin San Francisco Med. gr., 2320 Clay, SF-sf
A. B., Stanford, 1914.
Paulson,MyrtleNina Minneapolis,Minn. Bot. gr., 33 Roble
A. B., Stanford, 1914.
Payne, Alan Edward Morgan Hill Educ. sp. 74, 77 Encina
[1]Peabody, Edwin Russell Phoenix, Ariz. M. E. 9, 5 Lasuen
Pearsall,GeorgeneAmelia DesMoines,Ia. Germ. 110, Pi Beta Phi
Pearsall, Helena Enumclaw, Wn. Educ. 16, Alpha Phi
Peck, Eldon Matthew Mayfield C. E. 5, 720 Cowper-p
Peck, Emily Gilman Hollywood Hist. 47, 80 Roble
Peck, Maybelle Claire Compton Graph. 46, Alpha Phi
Peck, Sedley Clarendale San Mateo Econ. gr., San Mateo-sm
A. B., Stanford, 1913.
Pedley, Lionel Evarard Riverside C. E. †11, Chi Psi
[1]Peebles, James Ernest Berkeley Law gr., 251 Emerson
A. B., Stanford, 1914.
Peers, George Alexander Mayfield E. E. 86, Encina
Pehl, Arthur Hales Upland PreL. 14, 405 Emerson
Pehrson, Elmer Walter San Jose Min. 11, 240 Walnut, SJ-sj
[2]Peirce, Millard O. Wilmington, Del. PreL. †, 660 Waverley-p
Perham, George Sheldon San Mateo Bot. 14, San Mateo-sm
Perham, Philip D. B. Palo Alto Greek 103, 335 Melville-p
Perry, Altha Kingman, Ariz. Law 123, Langworthy Club
Peters, Raymond Ashley Stanford Un. Educ. sp. 57, 2 Lasuen
Peterson,HelenMyranda Honolulu,T.H. Engl. 38, 27 Roble
Peterson, Noble Goodwin Scipio, Utah Hist. 81, College Terrace
Pettingill, Henry S., Jr. Los Angeles C. E. 33, Beta Theta Pi
Pettit, Albert Victor Hoquiam, Wn. Phyl.-Med. 104, 43 Encina
Phares, John French Santa Rosa Bot. 74, Kappa Alpha
[2]Philip, Charles Whipple San Francisco Phyl., 154 Encina
Philips, Serena Palo Alto Bot. 76, 612 Waverley-p
Phillips, Alfred Liles Santa Cruz Med.gr., 1849Jackson,SF-sf
A. B., Stanford, 1913.
Phillips, Jonathan Edward Modesto Law 64, Delta Chi
Phillips, Raymond Millard Los Angeles Law 125, Acacia
[1]Phillips, Wendell Keigh Portland, Ore. Law 84, Kappa Alpha
Piatt, Richard Henry Palo Alto Hist. 105, 847 Bryant-p

Pier, Arthur Bruno	Los Angeles	M. E. 64, 103 Encina
[1]Pier, Paul Albert	Palo Alto	Law 124, Delta Chi
Pierson, Egbert Heber	Painesville, O.	Law 60, AlexandriaHotel-p
Pike, Alexander Noel	Palo Alto	M. E. 10, 634 Hamilton-p
Pilipenko,VasiliI. Ekaterinoslave,Russia		C. E. sp. 55, 704 Bryant-p
Pinney, Tucker Lee	Phoenix, Ariz.	Econ. 12, 5 Lasuen
Piper, Marvin McGrew	Prescott, Ariz.	M. E. †16, 160 Encina
Piper, Will Bruce	Prescott, Ariz.	C. E. 113, 97 Encina
Pitcher, John Dudley	Redwood City	C. E. 35, Redwood-r
[2]Place, Richard George	Pasadena	Min. †, Hotel Alexandria-p
Plummer, Edna A. B., Stanford, 1914.	San Jose	Math. gr., 64 Roble
Poindexter, Emily Virginia	Los Gatos	Lat. 104, Alpha Omicron Pi
Popp, William Louis	San Jose	C. E. 42, 63 Lenzen, SJ
[2]Potts, William Andrew B. E., Adelaide, 1913.	Adelaide,S.Aus.	E. E. gr., 17 Salvatierra
Pratt, Anna Bertina	Fallbrook	Zool. 44, 46 Roble
Pratt, Eric Torrens	Ontario	Econ. 64, 186 Encina
Pratt, Eugene Elliot	Ogden, Utah	Law 92, 170 Encina
[1]Pratt, Evelyn R. A. A. B., Stanford, 1915.	Bostonia	Engl. 128, 27 Roble
Pratt, Helen Louise A. B., Stanford, 1915.	Palo Alto	Zool. gr., Delta Delta Delta
[2]Prentice, Roy Stevenson	Brisbane,Aus.	C. E. sp., College Terrace
[1]*Prescott, Basil A. B., Stanford, 1908, A. M., 1915.	El Paso, Tex.	Geol. gr., El Paso, Tex.
Preston, Flora May	Petaluma	Hist. 47, 38 Roble
Price, Francis A. B., Stanford, 1914.	Palo Alto	Law gr., 181 Encina
Price, John Bertsch, Jr.	Hazleton, Pa.	Econ. 96, Phi Kappa Psi
Price, Merton James A. B., Stanford, 1913.	San Francisco	Med.gr., 1015Devisad.,SF-sf
Price, Robert Morgan	Hazleton, Pa.	C. E. 32, Phi Kappa Psi
Price, Verona Violet	Palo Alto	Econ. 13, 602 Webster-p
Prior, Frank Oscar	Escondido	M. E. 10, 28 Encina
Pritchard, Walter Ferris	Colton	Phyl. 58, 9 Encina
Prout, Florence	Preston	Fr. 107, Langworthy Club
Pruett, Alvin William	Pomona	Ent. 38, Kappa Alpha
Pruett, Harry Jeroam A. B., Stanford, 1912.	Pomona	Med. gr., 2418 Wash., SF-sf
Purdy, Donald Fredk.	Dawson,Y.T.Can.	M. E. 13, Alvarado Hall
Putnam, Dorothy	Gifford, Wn.	Hist. 75, 5 Roble

Pyle, Kenneth	Gilroy	Geol. 147,	57 Encina
Pyles, Ethel Goldie	Whittier	Germ. 14,	656 Bryant-p
Quinby, James Abram	San Jose	PreL. 14,	2 Salvatierra
[2]Rae, Arthur Evans	Palo Alto	Educ. gr.,	342 Homer-p
B. S., Illinois, 1907.			
[2]Rae, Lillian Mary	Palo Alto	Engl. gr.,	342 Homer-p
A. B., Albion, 1910.			
Rainey, Garnet Cecil	Los Angeles	Econ. 35,	2 Lasuen
Rainville, Felix Louis	Willows	Chem. 32,	526 Waverley
Rakestraw, Norris Watson	Los Angeles	Chem. 71,	4 Alvarado
Ramsey, Bessie Louise	Billings, Mont.	Econ. 15,	28 Roble
Randau, Clemens J.	Los Angeles	Econ. 13,	159 Encina
Rathbun, Dwight S.	Santa Monica	PreL. 8,	Sigma Nu
Rathbun, Harry John	San Jose	M. E. 91,	42 Encina
Ray, Hoyt Everett	Provo, Utah	Law gr.,	AlexandriaHotel-p
A. B., Cornell, 1913.			
Ray, James Chandler	Palo Alto	Geol. gr.,	1235 Webster-p
A. B., Stanford, 1914, A. M., 1915.			
Rayburn, Irma Lois	San Jose	Educ. 69,	Mariposa Club
Rea, Bernard Johnson	San Bernardino	Phyl.-Med.101,	410Lytton-p
Rea, James Harrold	Gilroy	C. E. 111,	Chi Psi
Read, Jay Marion	San Francisco	Med. gr.,	1571Fulton,SF-sf
B. S., California, 1912, M. S., 1913.			
[2]Read, William	San Francisco	C. E. gr.,	249 Kipling-p
A. B., Stanford, 1909.			
Redwine, Clyde Columbus	Mt. View	Econ. 8,	Mountain View-m
Redwine, Wendell Earle	Riverside	PreL. 16,	5 Lasuen
Reeder, Leland Parker	Los Angeles	Econ. 105,	Sigma Alpha Ep.
Reeve, Vernon Joel	San Jose	C. E. 14,	740 S. 3d, SJ-sj
Reeves, Frank Wixon	San Bernardino	Geol. 105,	Sigma Nu
Rehm, Francis Edward	Sonora	Geol. 95,	153 Encina
Rehmke, Anna Marie	Santa Barbara	Germ. 106,	667 Melville-p
Rehmke, Henrietta	Santa Barbara	Germ. 105,	667 Melville-p
Reilly, Hubert Bernard	Portland, Ore.	Chem. 15,	Alvarado Hall
[1]Reineman, LeRoy Foerster	Pasadena	Econ. 82,	Sigma Nu
Reining, Charles	Davenport, Ia.	Germ.gr.,	340Emb'cadero-p
A. B., Stanford, 1908; A. M., Harvard, 1911.			
Reith, Flora	Woodland	Zool. 14,	Alpha Omicron Pi
Remington, Robert Hiram	Palo Alto	C. E. 9,	930 Scott-p
[1]Remollo,ProcesoRendon	Aynquitan,P.I.	Law †1,	4 Salvatierra
Renkel, Roger William	St. Louis, Mo.	Chem. 13,	21 Encina
Reynolds, Jere Thomas	Los Angeles	PreL. 17,	Kappa Alpha

[2]Reynolds, John Lynn Los Angeles M. E. gr., 630 Lincoln
A. B., Stanford, 1912.
Reynolds, Lloyd Robinson Upper Lake Phyl.-Med. 102, 455 Univ.-p
[2]Rich, Willis Horton Lancaster Zool. gr., 529 Hamilton
B. S., Lombard, 1905; A. B., Stanford, 1909.
Richards, Alva Mary San Jose Educ. 84, 365 Vine, SJ-sj
Richards, Roy Lee Prescott, Ariz. Econ. 44, 200 Encina
[1]Richardson, Jas. Kemke San Francisco C. E. sp. 38, Delta Kap. Ep.
Richter, Margaret Rose Los Angeles Engl. 60, 30 Madrono
Ridder, Harold Ferdinand Long Beach M. E. 46, Alvarado Hall
Riebel, Chester A. Roseburg, Ore. PreL. 16, 190 Encina
Rifenberick, William Lorenzo Palo Alto M. E. 52, 451 Addison-p
Righter, Floyd Lester South Pasadena Chem. †16, Encina
Ring, Sidney Harrison Portland, Ore. Econ. 77, 39 Encina
[1]Rivera, Alfredo H. Mexico, Pamp.,P.I. Phyl., College Terrace
Robbins, Wesley Eugene Portland, Ore. Engl. 11, 11 Salvatierra
[1]Roberts, Helen Marjorie San Mateo Engl. 23, San Mateo-sm
Roberts, Ralph Smith San Diego Educ. sp. 7, 158 Encina
[1]Roberts, Richard Evan Redlands Law gr., Phi Delta Theta
A. B., Stanford, 1914.
Roberts,WeymouthMelbourne Redlands PreL. sp. 12, Phi Kappa Psi
Robertshaw,HarryMarshall,Jr. Glendale C. E. 14, Mountain View-m
[2]Robinson,CaldwellColt Hartford,Conn. Engl., 21 Salvatierra
Robinson,GeorgeFrazier Columbia,S.C. Geol. gr., College Terrace
B. S., South Carolina, 1914.
Robinson, Geroid Phoenix, Ariz. Hist. 44, 199 Encina
[2]Robinson, Hester Doughlas Trabuco Engl. †, 36 Roble
[1]Robinson,PercyMathew Portland,Ore. Econ. 16, Phi Gamma Delta
Rockman, William Henry, Jr. Los Gatos M. E. 103, 81 Encina
Rodig, Milton Theodore El Cajon E. E. 103, 169 Encina
Rogers, Alice Marie Los Angeles Econ. 104, DeltaDeltaDelta
Rogers, Harold P. Forest Grove, Ore. C. E. 3, 1650 Waverley-p
Rogers, Leslie Charles Ventura PreL. 47, The Lodge
Rolfe, Olivia Palo Alto Bot. 10, 750 Palo Alto av.-p
[2]von der Ropp,Alfred,Jr. NewYork,N.Y. Chem. †, 2 Lasuen
Rose, Franklin Orth Santa Monica C. E. sp. 42, 943 Scott-p
Ross, George Paul Lakeview, Ore. Law gr., 1227 Byron-p
A. B., Stanford, 1915.
[1]Ross, James Madison Manila, P. I. PreL. 30, PhiGammaDelta
Ross, Stanley Palo Alto Geol. 62, 561 Middlefield-p
Roth, Earl Frederick Willits Phyl.-Med. 85, 105 Encina

Rouiller, Marcelle Henriette Palo Alto Fr. 106, 431 Channing-p
Roush, Lucile Bertha Stanford Univ. Bot. 14, Cedro Cottage
Royden, George Taylor San Mateo M. E. 45, San Mateo-sm
Royden, Herbert Nathan, Jr. San Mateo M. E. 11, San Mateo-sm
Rugg, Ethel Dickinson Oakland Fr. 15, Langworthy Club
Russell, Beatrice Thelma San Diego Germ.44, Delta Delta Delta
Russell, John Henry Los Angeles PreL. 47, Phi Delta Theta
Russell, William Otis Los Angeles PreL. 13, Kappa Sigma
Ryan, Frederick Charles Palo Alto M. E. sp. 13, 135 Everett-p
Ryan, Marguerite California San Jose Hist. 11, 64 Roble
Ryon, Harrison John CharlesCity,Iowa Law 104, Sigma Chi
Sadler, Anthony Wayne Santa Cruz PreL.sp.27, 275 Hamilton-p
[1]St. John, William Errle Palo Alto Educ. gr., 454 Forest-p
A. B., Oregon, 1912.
Sakuma, Henry Fumiya San Jose M. E. 103, 1060 Bryant-p
Salomon, Edward San Francisco Med. gr., 1634 Fell, SF-sf
B. S., California, 1913.
Sample, Fillmore Fresno Phyl. 17, Sigma Alpha Ep.
Sanborn, Maury H. Pasadena Geol. 12, Zeta Psi
Sanborn, Morgan Allan Benicia Law 102, 23 Encina
Sanden, Eugene Stuart Helena, Mont. PreL. 11, 19 Lasuen
[1]Sanford, Alice Palo Alto Phyl. 47, 450 Kingsley-p
Sanford, Carrie Isabel San Francisco Fr. 110, Delta Delta Delta
Sanford, Laura Maud San Francisco Fr. 23, Delta Delta Delta
Sanger, George Norman San Diego Hist. 45, Encina
Sappington, Clarence Olds Palo Alto Phyl. gr., 712 Bryant-p
A. B., Whitman, 1911.
[1]Sargent, Bradley V., Jr. Salinas Law †37, Delta Upsilon
Saunders,StewartAcers Emmetsburg,Ia. Hist.12, DeltaKappaEpsilon
Saunders, William Ewart Fresno Econ. 57, Delta Kappa Ep.
Sawtelle, James Mhoon Tucson, Ariz. PreL. 13, 5 Lasuen
[2]Sawyer, Dwight Lewis Gardena Geol. 22, Theta Xi
Say, Harry Leslie Parlier PreL. 16, Encina
Sayre, Crystal Tulare Math. 41, Langworthy Club
Schaeffer, Negley Germantown, Ohio C. E. 38, 635 Bryant-p
Schaufelberger, Wm. M. Hastings, Neb. Chem. 13, 11 Salvatierra
Schaupp, Karl Ludwig Santa Rosa Med. gr., 3300 Clay, SF-sf
A. B., Stanford, 1913.
Schein, Sidney San Jose Chem. 14, 156 Park, SJ-sj
Schellbach, Genevieve San Jose Engl. 111, Mariposa Club
Schellbach, Mabel Louise San Jose Germ. 76, Mariposa Club

Schempp,Christy Adolph Taunton,Mass. Chem. 71, 225 Addison-p
Schilling, Marjorie Lucille San Jose PreL. †12, 337S.17th,SJ-sj
Schlesinger, Lee San Francisco PreL. 12, Sigma Nu
[1]Schluer, Schurley Emil Woodland PreL. 3, Kappa Sigma
Schnell, Eugene Andrew Mayfield Graph. 60, Mayfield-m
Schnetzler,StanleyS. BeaverDam,Wis. Law 57, Ramona bldg.
[1]Schofield, Martha Nickerson Palo Alto Educ. 121, 446 Hamilton-p
A. B., Stanford, 1915.
Scholz, Carl Eugene Campbell M. E. 48, 130 Encina
Scholz, Herbert Joseph Campbell E. E. 112, 130 Encina
[2]Schumann, Harry F. San Jose M. E., Acacia
Schwarzenbek,Francis X. San Francisco Min. 10, 197 Encina
Scott, Caleb Emlen San Mateo Bot. 42, San Mateo-sm
Scott, Clyde H. Santa Barbara C. E. 37, 136 Encina
Scott, Ewing Carruth Iola, Kas. Chem. 77, 1057 Ramona-p
[1]Scott, Florence Leonard SanBernardino Bot. 126, Alpha Omicron Pi
A. B., Stanford, 1915.
Scott, Walter Winthrop Willits Geol. 71, 105 Encina
Scovel, George Kenneth Chadron, Neb. PreL. 77, 79 Encina
Scudder, Benjamin H. Glendale, Ariz. Educ. gr., 918 Cowper-p
A. B., Illinois, 1900; Ph. M., Chicago, 1901.
Scudder, Virginia E. K. Glendale, Ariz. Engl. 14, 918 Cowper-p
[2]Sears, Edward Albert, Jr. San Diego PreL., Phi Delta Theta
Sears, Harry Johnson Palo Alto Chem. gr., 707 Bryant-p
A. B., Stanford, 1911, A. M., 1912.
Sears, Horace Holmes Redwood City Law gr., Redwood City-r
B. S., Dartmouth, 1900.
Sevier,RaymondArthur ArroyoGrande Chem. 13, College Terrace
Seward, Grace Elizabeth Los Angeles Graph. 41, Delta Gamma
Seymour, Donald Irving Palo Alto C. E. 102, 828 Cowper-p
Seymour, Doris Margaret Palo Alto Engl. 12, 828 Cowper-p
Shamberger,JacobCasper Payette,Idaho Lat. gr., 412 Cowper-p
A. B., Western Maryland, 1904; A. M., Stanford, 1914.
Shands, Julia Bell San Marcos, Tex. Engl. gr., 20 Alvarado
A. B., Southwestern, 1904.
Sharp, Edward William Chico C. E. 85, 81 Encina
Sharp, Joela Douglas, Okla. Engl. 102, 411 Waverley-p
Sharp, Leslie Harrison Albany, Ore. Chem. gr., 19 Lasuen
A. B., Lake Forest, 1912.
Sharp, Sidney J. W. Hanford Law gr., 60 Encina
A. B., Stanford, 1914.
Sharpe, Otis Allen Hynes Med. gr., 2129 Calif., SF-sf
B. S., California, 1912.

Shaw, Alpheus Edward Wilmington,Vt. Law †5, 262 Kingsley-p
Shaw,Carl Raymond SaltLakeCity,Utah C. E. gr., Acacia
A. B., Stanford, 1914.
Shaw,Franklin Edward Lewiston,Idaho Law 96, Phi Gamma Delta
Shaw, Walter Porter Los Angeles C. E. 5, 333 Waverley-p
[2]Shaw, William Thomas Pullman, Wn. Zool. gr., 549 Cowper
B. Agr., Minnesota, 1898, B. S., 1899; M. S., Mich. Ag. Col., 1901.
Shea, Perry Milton Watsonville Phyl. 6, 333 Waverley-p
Shea, Timothy Thomas San Francisco Med. gr., 3753 17th, SF-sf
A. B., Stanford, 1914.
Sheehy, John Frederick Watsonville PreL. 16, Phi Kappa Psi
Sheldon, Jeremiah William Gilroy Bot. 105, 57 Encina
Sheldon, Katherine Anne Palo Alto Engl. 45, 851 University-p
[2]Sheldon, Peryl Hazelle Parker, S. D. Engl. 109, Mariposa Club
Shelton, Bob Los Angeles Hist. 13, Pi Beta Phi
Shelton, Leigh Clairborne Los Angeles Hist. 43, Pi Beta Phi
Shelton, Ruth Casner Los Angeles Hist. 106, Pi Beta Phi
Shepard, Joseph A. Salt Lake City,Utah M. E. 73, Encina
Shepardson,Dwight Emerson Fullerton Phyl. 53, 9 Encina
Sherman, Richard Wade Palo Alto Econ. 10, 427 Webster-p
Sherwin, Emery D. San Diego C. E. 41, Kappa Alpha
Shimadao, Saichi Hilo, Hawaii C. E. 79, Japanese Club
Shipway, Leslie Scott San Jose Econ. 45, 67 S. 20th, SJ-sj
Shriver, Harold Dexter Eureka, Utah E. E. 93, Theta Xi
Sickler, Jack Miller Pasadena Geol. 73, Zeta Psi
Siefert, Herman George Pasadena Chem. 86, AlphaTauOmega
Siemon, Frederick Ontario Geol. 104, 173 Encina
Sierk, Herbert St. Louis, Mo. Germ. 57, 18 Encina
Simon, Dorothy Janet Butte, Mont. Hist. 75, Mariposa Club
Simonds, Sarah Louise Los Angeles Phyl. 88, Delta Gamma
Simonson, Stanley Stoddard Merced Econ. 101, Delta Upsilon
Simpson, Carolyn Elen Palo Alto Engl. 43, 667 University-p
Simpson, Helen McDougall San Jose Graph. 14, 16 Madrono
[1]Simpson, Ralph Townsend Pasadena Geol. 22, Beta Theta Pi
[1]Sinclair, Robert Augustus Pacific Grove C.E.sp.14, SigmaAlphaEp.
Sine, Landreth Ross Lincoln, Neb. Econ. 8, Alpha Tau Omega
Single, Carroll John Stockton PreL. 50, Zeta Psi
Single, Forrest Edwin Stockton Law gr., Zeta Psi
A. B., Stanford, 1914.
Sisson, William Fred. Flagstaff, Ariz. Econ. 75, Sigma Chi
[1]Sizer, Miriam Dos Cabezas, Ariz. Hist. 44, Madrono

Skelton, Leland Rice Okmulgee, Ok. Phys. 48, 1511 Waverley-p
[1]Skinner, Gresham James Palo Alto PreL., 481 University-p
Skinner, Harvey Herbert Easton Bot. 22, Easton-e
Skolfield, William King Portland, Ore. E. E. 112, 145 Encina
[2]Slade, Franklin M. Menlo Park C. E., Beta Theta Pi
Slocum, LeCount Haynes Palo Alto Geol. 7, 803 Cowper-p
Sloss, Louis, Jr. San Francisco M. E. 112, 168 Encina
Sloss, Mary Tamzen San Jose Econ. 106, Pi Beta Phi
[1]Small, Horatio Leverett Palo Alto Geol. gr., 334 Cowper-p
A. B., Stanford, 1911.
[2]Small, Otis Danforth Cupertino Chem. sp., Cupertino-c
[2]Smalley, George Richard Hanford Min., Phi Kappa Psi
Smallwood, Walter Charles Richmond Med. gr., St.Dunstan,SF-sf
B. S., California, 1913.
Smith, Andrew Mackay Hollywood M. E. 47, Kappa Sigma
[1]Smith, Dorothea Louise Campbell Hist. 120, 63 Roble
A. B., Stanford, 1915.
Smith, Earl Martin Santa Cruz Econ. 15, 861 Channing-p
Smith, Edgar Clarence Azusa Law gr., 141 Encina
A. B., Stanford, 1913.
Smith, Edith Howard Easton Fr. 72, Delta Gamma
Smith, Elmer William San Francisco Med. gr., 2320 Clay, SF-sf
A. B., Stanford, 1912.
[1]Smith, Felita Mary Fresno Hist. gr., 51 Roble
A. B., Stanford, 1912.
[2]Smith, Gwendoline Portland, Ore. Psych. †, 62 Roble
[1]Smith, Harold Fred Chefoo, China Educ. gr., 515 Waverley-p
A. B., Stanford, 1907.
[1]Smith, Harold Webster Boise, Idaho Econ. 40, 21 Salvatierra
Smith, Harry James Ferndale Med. gr., 2320 Clay, SF-sf
A. B., Stanford, 1912.
Smith, Jessie Edna Redwood City Fr. 84, Redwood City-r
Smith, Lee Roy Puente PreL. 13, 542 Cowper
Smith, Leslie Gaines San Jose Educ. gr., 179 Park, SJ-sj
A. B., Stanford, 1914.
Smith, Mary Morgan Los Gatos Lat.gr. R.F.D.14,LosGatos-l
A. B., Vassar, 1910; A. M., Stanford, 1915.
Smith, Mildred Ferndale Germ. gr., 26 Roble
A. B., Stanford, 1914.
Smith, Roderick Arbuckle Seattle, Wn. PreL. 14, 537 Hamilton-p
Smith, Stanford Geary Santa Cruz PreL. 41, Kappa Sigma
Smith, Talmage Laughner Irwin, Pa. Law 114, 120 Encina

[1]Smith, Winthrop Sherwood	Stockton	C. E.,	2 Lasuen
Smitherum, Edgar	San Jose	C. E. 59,	177 Encina
[1]Smithson, Frank E.	Ellensburg, Wn.	Econ. sp. 40,	Sigma Nu
Snead, Albert Charles A. B., Vanderbilt, 1903.	Palo Alto	Educ. gr.,	834 Kipling-p
[2]Snell, Elizabeth Burritt A. B., Stanford, 1908.	Palo Alto	Educ. gr.,	629 Emerson-p
Snell, Joel Andrew A. B., Stanford, 1901.	Palo Alto	Educ. gr.,	629 Emerson-p
Snell, Kenneth A.	Palo Alto	M. E. 46,	629 Emerson-p
Snell, Lester William	Raton, N. M.	Geol. 93,	91 Encina
Snyder, Howard O.	Colorado Sps.,Colo.	M. E. 8,	Alvarado Hall
[1]Solon, Philip O.	Stoke-on-Trent, Engl.	Law sp. 29,	Acacia
Soper, Harold Calhoun	Palo Alto	Geol. 51,	Phi Kappa Psi
Spalding, Helen Godfrey	Los Angeles	Engl. 62,	8 Roble
Speed, William Patillo	Los Angeles	PreL. sp. 34,	Alpha Tau O.
Speers, Roland Root	Santa Monica	Phyl. 5,	Sigma Nu
Spence, Homer Roberts A. B., Stanford, 1913.	Alameda	Law gr.,	Chi Psi
Spence, Ruth	Salt Lake City, Utah	Engl. †28,	Delta Gamma
Spencer, Lawrence M.	San Francisco	Geol. 41,	Phi Kappa Psi
Spurrier, Howard A.	Paso Robles	Chem.29,	Cowp.&Ten'son p
[1]Stafford, Kathleen A. B., Stanford, 1913.	San Jose	Lat. gr.,	625 Hamilton-p
Stafford, Walter Joseph	San Francisco	PreL. 27,	Zeta Psi
Stammer, Walter Henry A. B., Stanford, 1914.	San Jose	Law gr.,	Delta Chi
Staniford, Warren Paul	Fresno	Law 75,	436 Lytton
Stanley, Herbert M.	Palo Alto	Geol. 47,	69 Hawthorne-p
Stark, Anna Vaal	Palo Alto	Graph. 52,	1020 Ramona-p
Stark, Marguerite Dare	Palo Alto	Engl. 53,	1020 Ramona-p
Starnes, William Laurence	Exeter	M. E. 38,	90 Encina
Steadman, Alva Edgar	Beresford, S. D.	Hist. 85,	182 Encina
Stearn, Allen Edwin	St. Louis, Mo.	Chem. 102,	80 Encina
Stearn, Joseph Harold	Los Angeles	C. E. 4,	Alpha Tau Omega
Stearn, Noel Hudson	St. Louis, Mo.	Engl. 17,	38 Encina
Stearns, Edna Adele A. B., Stanford, 1914.	Oakdale	Hist. gr.,	Langworthy Club
Stearns, Leland Church	Oakland	M. E. †11,	Sigma Chi
Steinbeck, Karl G.	Hollister	C. E. 12,	195 Encina
Steinberger, Grace H.	Redwood City	Germ. 44,	Mariposa Club
[2]Steinhart,TheodoreM.	Logansport,Ind	Chem. †,	Kappa Sigma

Steininger, Alma Helen	Palo Alto	Graph. 45,	419 Webster-p
Steininger, Nadie M.	Los Angeles	Hist. †13,	419 Webster-p
[2]Steiny, Homer J.	Stockton	Geol. 51,	Zeta Psi
Stephens, Charles Henry	Mayfield	Phil. gr.,	Mayfield-m
A. B., College of Pacific, 1914.			
Stephenson, Hugh Chester	Alpine	M. E. 46,	Los Altos
[1]Stephenson, Orlando L., Jr.	Los Altos	Econ. 6,	Los Altos-l
Stevens, Blaine L.	Palo Alto	Ent. 32,	926 Cowper-p
Stevens, John Egbert	Butte City	Med. gr.,	2403 Clay, SF-sf
B. S., Occidental, 1913.			
Stevens, Lloyd C.	Graceville, Minn.	Law 107,	Phi Delta Theta
Stevens, Verne Genoa	Palo Alto	Ent. gr.,	926 Cowper-p
A. B., Stanford, 1913.			
[1]Stever, Carl W.	San Francisco	PreL. 15,	Phi Kappa Psi
Stevick, Anna Laura	Palo Alto	Engl. gr.,	601 Melville-p
A. B., Stanford, 1914.			
Stevick, Guy LeRoy, Jr.	Palo Alto	PreL. 9,	601 Melville-p
Stevick, Mary Ellen	Palo Alto	Econ. 56,	601 Melville-p
Stevick, Nana	Palo Alto	Engl. 28,	601 Melville-p
Stewart, Clarence Edward	Stockton	C. E. 89,	Chi Psi
Stewart, Florence Dean	Los Angeles	Hist. 78,	KappaAlphaTheta
Stewart, Geneva Grace	Stockton	Hist. 45,	Gamma Phi Beta
Stewart, Harold Smith	Upland	Geol. 73,	4 Salvatierra
[1]Stewart, Horace Vane	Denver, Colo.	Law 65,	660 Waverley
Stewart, John Thomas	Live Oak	Law unc. 27,	148 Encina
Stewart, Leo William	Bernice, Mont.	PreL. 26,	359 Emerson-p
Stillson, Grace Elizabeth	Palo Alto	Hist. 113,	451 Ruthven-p
Stinchfield, Roxana J.	College City	Bot. 103,	327 Emerson-p
Stiver, Howard Xavier	Leetonia, O.	Phil. 9,	Chi Psi
Stocklmeier, Adele Irmler	Cupertino	Graph. 42,	Cupertino-c
Stocklmeier, Louis	Cupertino	C. E. 81,	Cupertino-c
Stone, Elizabeth	Los Angeles	Hist.104,	KappaAlphaTheta
Stone, Ruth	Los Angeles	Math.104,	Kap.AlphaTheta
Storm, Hans Otto	Imperial	M. E. 14,	559 Cowper-p
[1]Streeter, Millard Joseph	Fresno	Phyl. 11,	Phi Kappa Psi
Strickler, John Philip	San Diego	Med.gr.,	2418 Wash., SF-sf
A. B., Stanford, 1913.			
Stuart, Archer Bell	Palo Alto	E. E. 98,	621 Gilman-p
Sturges, Roger Burnside	Los Angeles	M. E. 11,	Alvarado Hall
Sudden, Anita Elenora	Ventura	Psych. 69,	Langworthy Cl.
[2]Sugars, Nell Muriel	Los Angeles	Educ. 95,	324 Emerson-p

[1]Sullivan, Albert Patrick	Hollister	Phyl. 87,	153 Encina
Sullivan, Daniel Henry	Eureka, Utah	C. E. 35,	190 Encina
Supple, Albert James	Alhambra	Phyl. 70,	106 Encina
Supple, Frederick Edward	Alhambra	PreL. 47,	106 Encina
Suydam, Clinton Hamilton	Los Gatos	M. E. 12,	Los Gatos-l
Svenson, Arthur Edward	Los Angeles	Chem. 97,	Encina
Swabey, William Curtis	Riverside, Ill.	Phil. 109,	334 Waverley-p
Swafford, Wilford T.	Rutherford, N. J.	Econ. sp. 12,	19 Lasuen
Swain, Albert Free	Los Angeles	Ent. gr.,	251 Emerson
A. B., Stanford, 1915.			
Swan, Guy Carleton	Lawrence, Mass.	Chem. gr.,	139 Encina
A. B., Stanford, 1914.			
Swan, James Hickman	Canton, China	Phyl. 65,	742 Bryant-p
[2]Swarts, Clifton Ray	Hermosa Beach	Geol.,	Alpha Tau Omega
Swayne, Lloyd	Alameda	M. E. 110,	Kappa Sigma
Sweeney, Luella	Tell City, Ind.	Hist. 33,	Madrono
Swett, Wilber Frank	Palo Alto	Phyl. 35,	1000 Forest-p
[2]Swickard, James Blaine	San Jose	C. E. gr.,	641 S. 11th, SJ-sj
A. B., Stanford, 1910.			
Swigart, Theodore Earl	Oakland	C. E. 49,	24 Encina
Swingle, Clarissa Winifred	Long Beach	Educ. gr.,	25 Roble
A. B., Stanford, 1915.			
Swingle, E. Margaret	Long Beach	Span. 31,	34 Roble
Sylva, Joseph L. M.	Honolulu, H. T.	PreL. 15,	515 Waverley-p
Taff, Elizabeth Simonds	Palo Alto	Econ. 102,	Kap.AlphaTheta
Tag, Tessie	Los Angeles	Germ. 107,	87 Roble
Takanashi, Taka	Palo Alto	Engl. 29,	365 Lincoln-p
Takata, Toshio	San Francisco	M. E. 15,	Japanese Club
[1]Takei, Toshimichi	Yamanashi Ken, Jap.	M. E. sp. 22,	Japanese Club
Talboy, Irwin Whitfield	Palo Alto	Engl. 39,	311 Middlefield-p
Tatnall, Ashton R., Jr.	Redlands	M. E. 83,	18 Encina
Taylor, Agnes Stanford	San Francisco	Engl. 16,	11 Roble
[1]Taylor, Arthur	Los Angeles	C. E. gr.,	Phi Delta Theta
A. B., Stanford, 1912.			
Taylor, Doris Elizabeth	Reno, Nev.	Hist.,	Kappa Alpha Theta
Taylor, Erna Gertrude	Los Angeles	Engl. 53,	Alpha Omicron Pi
Taylor, Frank J.	Los Angeles	Econ. 12,	181 Encina
[2]Taylor, George Harvey	Kerman	C. E. 41,	19 Encina
Taylor, John Joseph	San Jose	Law †11,	117 Fourth, SF-sf
Taylor, Mildred	Santa Ana	Lat. gr.,	32 Roble
A. B., Occidental, 1914.			

Taylor, Rowena Ellsworth Claremont Germ. 81, Pi Beta Phi
[2]Taylor, Trenton Hurd Woodland Econ., Sigma Chi
Tedford, Malcolm Edward Santa Ana PreL. 46, Delta Upsilon
Teeter, Arthur Lewis Palo Alto Med. gr., 804 Bryant-p
A. B., Indiana, 1911.
[2]Teeter, Belva Pearl Stone Palo Alto Engl. gr., 804 Bryant-p
A. B., Indiana, 1913.
Tegner, William Evers Laramie, Wyo. Econ. 14, 707 Bryant
Templeton, John Wesley Palo Alto Chem. 48, 375 Everett-p
Templeton, Robert Lyman Palo Alto PreL. 6, 375 Everett-p
Templeton, Ruric Ruskin Palo Alto Geol. 65, 375 Everett-p
Tew, Marian Muriel Pasadena Math. 115, 9 Roble
Thalheimer, Ulrich S. Phoenix, Ariz. M. E. 8, 22 Encina
Thalheimer, Walter Phoenix, Ariz. Law 109, 134 Encina
Therkelsen, Cachot Portland, Ore. Econ. 8, Phi Kappa Psi
[2]Therkelsen, MaryDortea Portland, Ore. Phyl., 62 Roble
[1]Thoburn, James Harold Palo Alto Econ. 104, Phi Delta Theta
Thomas, MeganMyfanwy RockSpgs, Wyo Educ. 81, 22 Roble
Thompson, Ione G. South Pasadena Graph. 43, Kappa Kap. Gam.
Thompson, J. R. Gaver Pasadena PreL. 15, 330 Waverley-p
Thompson, Thomas West Palo Alto Geol. gr., 909 Alma-p
A. B., Stanford, 1912.
[2]Thompson, Will. A. Jr. Wenatchee, Wn. C. E. 3, 706 Cowper
Thompson, William Fr. Stanford Un. Zool. gr., 5 Lasuen
A. B., Stanford, 1911.
Thrapp, ElbridgeRichardson LosAngeles PreL. †12, Kappa Sigma
[1]Thrasher, HerbertMaxwell Duo, W.Va. M. E. sp. 29, 660 Waverley-p
Tilton, Lloyd Irvine El Centro Law 108, Delta Chi
Timmins, Claude Walter Fresno Law 63, Sigma Chi
Tindall, Verne L. Stuttgart, Ark. M. E. 37, 144 Encina
[1]Tisdale, Marjorie Minnie Redlands Law 103, Delta Gamma
[1]Titlow, Ione Marguerite Tacoma, Wn. Bot. 46, Alpha Omicron Pi
[1]Titus, Charles Hickman Sacramento Hist. 1, Faculty Club
Todd, Katherine Frances Oakland Phil. gr., Madrono
A. B., Stanford, 1915.
Tognazzini, Irene Amanda Cayucos Med. gr., 2321 Sacto., SF-sf
A. B., Stanford, 1913.
Tompkins, Bernice Brooks San Jose Hist. 54, KappaAlphaTheta
Towner, Bob George Los Angeles C. E. 10, Acacia
Townley, Lucile Stanford Un. Germ. 16, 33 Salvatierra
Townsend, Thomas Harold San Jose Min. 59, Kappa Sigma

Townsley, Sidney Cliffton Holly, Colo. Chem. 5, 625 Emerson-p
Tremayne, Frank Gilbert Oakdale Hist. †10, 359 Emerson-p
[1]Trent, Leonore Evelyn Los Angeles Engl. 123, Alpha Phi
A. B., Stanford, 1915.
Trimble, Fred Matlack Northbrook, Pa. Ent. gr., 5 Lasuen
B. S., Pennsylvania State College, 1914.
Tsuzaki, Mitsuji Kumamotoken, Japan Econ. gr., 733 Ramona
A. B., Stanford, 1914.
Tuck, Joy Edwarda Redlands Fr. 43, 9 Roble
Tucker, Frederic Sidney Santa Barbara Chem. 12, 1325 Bryant-p
Tucker, Murray Eaton Denison, Tex. Chem. 44, 15 Salvatierra
Tufts, John Marshall San Francisco Phyl. 66, Phi Kappa Psi
Tulloch, Leslie Sutherland Kohala,T.H. Zool. gr., 5 Salvatierra
A. B., Stanford, 1914.
Tully, Wilford Hamilton San Jose Law gr., 142 Encina
A. B., Stanford, 1915.
Turner,MadeleineMacCrea SanFrancisco Hist. 86, KappaKappaGam.
Turner, Mildred Hahmann Santa Rosa Educ. 12, 48 Roble
Turner, Muriel Emily Palo Alto Math. 73, AlphaOmicronPi
Tuthill, Gertrude San Jose Hist. 41, 87 S. 13th, SJ-sj
Twohy, Philip Joseph San Jose Econ. 27, Delta Kappa Ep.
Uhl, Gretchen Elisabeth Monrovia Germ. 42, Delta Delta Delta
Uhls, Kenneth B. Overland Park,Kan. Phyl. 56, Sigma Chi
[2]Upp, Daniel Curtis Dawson, Y. T., Can. Greek, Alvarado Hall
Urban, Joseph Charles Los Altos Geol. 56, Los Altos-l
Vail, Arthur Jacob Palo Alto E. E. 113, 333 Channing-p
Vail, Helen Palo Alto Econ. gr., 333 Channing-p
A. B., Stanford, 1914.
[1]Valentine, Jean Mae Los Angeles Engl. gr., KappaKappaGam.
A. B., Stanford, 1914.
[1]VandenBraak, Gail South Pasadena C. E. 36, Delta Upsilon
[1]Vanderburg, Chester Marion Madera Phyl.-Med. 126, 424 High-p
A. B., Stanford, 1915.
Vandervort, Lynnette Fond du Lac, Wis. Psych.99, KappaKappaGam.
Van Etten, Ilza Katrine Palo Alto Hist. 111, 465 Hawthorne-p
Van Every, Dale Byron Los Angeles PreL. 15, Alvarado Hall
Van Gorden, Horace Jerome Mayfield Econ. 16, Mayfield-m
Van Pelt, Ruth Los Angeles Math. 29, Mariposa Club
[1]Van Sicklen, William John Palo Alto Chem. gr., 347 Ramona-p
A. B., Stanford, 1912, A. M., 1913.
Van Zwalenburg, Marian J. Riverside Hist. 91, Delta Delta Delta
Vaudoit, Paul Louis San Luis Obispo Phyl. 13, 147 Encina

Vaughan, Marion Melinda Los Angeles Hist. 71, Delta Delta Delta
Veale, Mortimer Belshaw Martinez PreL. 47, 11 Encina
Veazey, Mildred Virginia Dardanelle, Ark. Engl. gr., 1225 Byron-p
A. B., Missouri, 1914.
Veblen, Clara Matilda Minneapolis, Minn. Engl. 73, Gamma Phi Beta
Viau, Benjamin Harrison Sanger Med. gr., 2462 Clay, SF-sf
B. S., California, 1912.
Vickery, Robert Kingston Saratoga Ent. 74, 101 Encina
Vigars, Ernest Powell Portland, Ore. C. E. sp. 80, Theta Xi
Vrang, Christion Madisen Dawson, Can. Geol.sp.115, SigmaAlphaEp.
[1]Vrang, Minna Christine San Rafael Zool. 57, Alpha Omicron Pi
Wade, Wilson R. Las Cruces, N. M. C. E. sp. 5, 200 Kingsley
Wagener, Willis Westlake Ceres Bot. 13, 263 Churchill
Wagner, Elizabeth Dorothea San Jose Educ. 98, 39 Roble
Waite, Howard Edgerly Riverside M. E. 141, 7 Encina
Wakefield, Cecil Ray Fresno Law 69, Delta Chi
Walbridge, Thos. Alexander Toledo, O. Econ. †15, PhiGammaDelta
Walker, Frank Fish San Francisco C. E. 12, 127 Encina
Walker, Gladys Lucile Monrovia Hist. 47, Mariposa Club
Walker, Loran Stiles Palo Alto Phil. sp. 8, 117 Cowper-p
Walker, Louis Oliver Boise, Idaho M. E. 11, College Terrace
Walker, Robert Bruce S. San Jose Math. †11, 342 S. 15th, SJ-sj
Walker, Sidney Carr Holton, Kas. Econ. 102, 25 Salvatierra
Wallace, Helen Visalia Hist.102, KappaKappaGam.
Wallace, James McOuat Palo Alto PreL. 44, 374 Kingsley-p
[2]Wallace, James S. Lethbridge, Alta., Can. PreL., 635 Bryant-p
Waller, Lawrence Waite San Francisco Econ. 21, Sigma Nu
Walls, Eleanor Prescott Los Angeles Hist. 108, Delta Gamma
Walter, Edwin Howard San Jose PreL.6, 615E.S.Clara, SJ-sj
Walters, John Earl Santa Ysabel Chem. 108, Theta Xi
Walther, Christine Oakdale Engl. gr., 324 Emerson-p
A. B., College of Pacific, 1914.
[1]Walther, Lyle Harris Medford, Ore. M. E. 4, Theta Xi
Ward, Butler Etter San Diego E. E. 141, Kappa Alpha
Ward, Newman Portland, Ore. Geol. 113, College Terrace
[1]Ware, Fletcher Kirkland Upland Econ. 8, Sigma Nu
Waring, Clarence Almon San Francisco Geol. gr., 580M'Allist., SF-sf
A. B., Stanford, 1911, A. M., 1914.
Warner, William Seth Muskogee, Okla. Econ. 12, AlphaTauOmega
Warnock, Archibald Wilson Palo Alto Zool. 13, 526 University-p
Warren, Lansing Los Angeles Engl. 51, 46 Encina

Warren, William Halford	Glendora	M. E. 119,	145 Encina
Washburn, Lowell More	San Jose	Ent. 12,	The Lodge
Wass, Warren H.	Ontario	C. E. 11,	405 Emerson-p
[1]Watanabe, Walter A. B., Stanford, 1914.	San Francisco	Chem. gr.,	Japanese Club
Waterman, Wilhelm Hallet	San Fran.	Engl. 21,	Cardinal Club
Waters, Ernest Gilbert	San Francisco	C. E. 102,	65 Encina
[1]Waters, Roy Norton	San Francisco	Bot. 48,	Pine Cottage
Watkins, Fred Bradshaw A. B., Stanford, 1914.	Los Angeles	Chem. gr.,	179 Encina
Watson, Leslie James	Sunnyvale	C. E. 12,	Sunnyvale-s
Wattenberger, Mary Owen	Palo Alto	Engl. 11,	666 Everett-p
[1]Waugh, Clarence W.	Brooklyn, N. Y.	Phyl. 122,	102 Encina
Weatherford, Harold L.	Chicago, Ill.	Zool. 81,	146 Encina
Webb, Florence Lisle	Park City, Utah	Engl. 89,	Delta Delta Delta
Webb, Morgan Chofield	Merced	Hist. 72,	656 Bryant-p
Weber, Harold Davis	Los Angeles	Econ. 40,	79 Encina
Weeks, Foster William	Oakland	Econ. 12,	2 Encina
Weeks, Pearl May	South Pasadena	Phys. 80,	65 Roble
Welch, Robert Johnson	Oakland	PreL. 14,	Beta Theta Pi
Welin, Albert Fabian B. S., California, 1912.	San Francisco	Med. gr.,	991 14th, SF-sf
Wells, Agnes Booth	E. Oakland	Hist. 104,	Langworthy Club
Wemra, Seitarow	San Francisco	M. E. 31,	Japanese Club
Wenzel, Robert Nicolas	St. Louis, Mo.	Chem. 93,	51 Encina
West, Howard Frank A. B., Stanford, 1912.	Los Angeles	Med. gr.,	1939 Clay, SF-sf
West, Z. Bertrand	Santa Ana	PreL. 47,	49 Encina
Westenhaver, Charles Ewing	Palo Alto	PreL. 12,	471 Addison-p
Westenhaver, Robert Edward	Palo Alto	PreL. 12,	471 Addison-p
Westerman, Helen	Oakdale	Econ. 16,	Evergreen Park
Weston, Clinton Byron	Palo Alto	Law 110,	5 Lasuen
Wetmore, Clyde T. A. B., Stanford, 1913.	San Francisco	Med.gr.,	1190Jackson,SF-sf
Weymouth, Frank Walter A. B., Stanford, 1909, A. M., 1911.	Palo Alto	Zool. gr.,	1212 Byron-p
Wheatly, Winston Rogers	Los Angeles	Econ. 23,	Kappa Sigma
Wheeler,Chas. Edward	Milwaukee,Wis.	Geol. 101,	193 Encina
Wheeler, Francis Foss	Milwaukee, Wis.	Econ. 110,	193 Encina
Wheeler, Oliver Percival	Petaluma	Bot. 11,	704 Bryant
Whetstone, Clyde Cowley	Escondido	M. E. 12,	College Terrace
Whipple, Horton	Burlingame	C. E. 53,	132 Encina

Whitaker, Wesley R. Oakland Law 100, 4 Salvatierra
White, Fred Ferrell Marion, Ill. Law 65, Cardinal Club
White, G. W. Eric Selma Phyl. 10, 4 Encina
White, Hazel May Burlingame Chem. 104, DeltaDeltaDelta
White, Lewis Edmund Redding M. E. 38, Theta Xi
White, Walter Thessing Portland, Ore. Educ.107, Tennyson&Bryant
Whiting, Woodson Whiting, Iowa Hist. gr., Delta Delta Delta
A. B., Grinnell, 1912.
Whitten, Lester Clark Spokane, Wn. Hist. 64, Delta Tau Delta
Wickersham, Newton W. Los Angeles Geol. 83, Kappa Sigma
Widell, Berndt Alexis Fort Ruger,T.H. M. E. 38, Encina
Wiggins, John Henry Geneva, Kas. C. E. gr., 29 Encina
A. B., Stanford, 1911.
Wilbur, Harry Rueben San Gabriel Chem. 10, 704 Bryant
Wilcox, Lorene San Francisco Educ. 56, Gamma Phi Beta
Wilcox, Robert William Delta, Colo. Med. gr., 2213 Steiner, SF
A. B., Stanford, 1913.
Wildman, Esther T. Philadelphia, Pa. Hist. 103, 28 Madrono
Wilkie, Alfred Daniel Los Angeles Engl. 13, Delta Tau Delta
Wilkie, Laura Elizabeth San Francisco Fr. 25, Alpha Omicron Pi
Wilkie,LonnieHouston DawsonSps.,Ky. Engl. 17, Baptist Church
Wilkins, Earl Brander San Francisco PreL. 37, Phi Gamma Delta
Wilkins, Robert E. Des Moines, Ia. Econ. 41, Delta Tau Delta
Will, Elsa Barbara Rochester, N. Y. Med. gr., 1040 Bush, SF-sf
A. B., Stanford, 1913.
Willard, Nancy Lee Los Angeles Hist. 9, Kappa Alpha Theta
Williams, Alice Whitney Los Angeles Chem. 13, 53 Roble
Williams, Ben Charles Los Angeles C. E. 69, Alpha Tau Omega
Williams, Buford Vinita, Okla. Econ. 62, 7 Encina
Williams, Ernest Elias San Jose PreL. 50, 445 S. 15th, SJ-sj
Williams, J. Harold Ainsworth, Neb. Educ. gr., 11 Salvatierra
A. B., Stanford, 1913, A. M., 1914.
Williams, Paul Langdon Los Angeles Econ. 46, Cardinal Club
Williamson, Helen Lucile Sebastopol Phyl. 41, 566 Everett-p
Williamson, Joseph Fredk. Sebastopol M. E. 12, 1251 Bryant
Willimann, Edwin Menlo Park Engl. sp. 67, Menlo Park-m
Wilson, Arthur Francis Hollister C. E. 12, 310 High-p
Wilson, Paul R. Coquille, Ore. Law sp. 61, 135 Encina
Winans, Henry Morgan Denver, Colo. Phyl. 68, Encina
[1]Wines, Blaine Leslie Ruby Valley, Nev. Law 73, Sigma Alpha Ep.
Wing, Robert Lewis Palo Alto C. E. 15, 345 Lincoln-p

Wing, Winchester Paddock Palo Alto Ent. 73, 345 Lincoln-p
Winn, Vera Lutitia Palo Alto Greek gr., 1102 Ramona-p
A. B., Stanford, 1915.
Winters, Nove McCullough Quincy, Ill. Law unc. 7, Alvarado Hall
Winters, Victor DeWitt Quincy, Ill. PreL. 9, Alvarado Hall
[2]Wirt, Charlotte Santa Rosa Germ. gr., 3 Lasuen
A. B., Stanford, 1900.
Wise, David Clarence Carthage, Mo. Chem. 14, 318 Emerson-p
[1]Wise, John Hamilton San Rafael PreL. sp. 22, Sigma Nu
Wiseman, Philip Kenneth Los Angeles Geol., Beta Theta Pi
Witherell, Otto S. Los Angeles Econ., The Lodge
Withers, Grace Agnes Edenvale Educ. †16, 11 Roble
Wolcott, Clifton E. San Francisco Econ. 105, 161 Encina
Wolcott, Herbert Betts Carthage, Mo. Econ. gr., 750 Bryant-p
A. B., Stanford, 1915.
Wolf, Leslie Milton San Diego Geol. 50, Phi Kappa Psi
Wolford, Catlin Portland, Ore. Econ. 15, Beta Theta Pi
Womack,DorothyLee Minneapolis,Minn. Econ. †9, Gamma Phi Beta
Wong, Ralph Buckhond Canton, China C. E. 99, 318 Emerson
Wood, Abbie Elvenia Palo Alto Econ. 12, 616 Forest-p
Wood, Anna Margaret Escondido Hist. 89, 26 Madrono
Wood, Dorothy Augusta Palo Alto Phyl.-Med.102, 1757Wav.,-p
Wood, Elizabeth Compton Palo Alto Econ. 12, 616 Forest-p
Wood, Grace Mary Mayfield Fr. 37, Mayfield-m
Wood, Hazel Imogene Los Angeles Fr. 23, Alpha Phi
Wood, Jacqueline Seattle, Wn. Hist. 101, AlphaOmicronPi
Wood,JamesT.,Jr. WhiteSulp.Sps.,Mont. Geol. 8, Delta Upsilon
Wood, James Vincent Pacific Grove Econ. 81, The Lodge
Wood, Jessie Ida Mayfield Bot. 110, Mayfield-m
Wood, John Clarence Santa Cruz Law 60, 46 Encina
Wood, W. Welcome Interior, S. D. Med. †, Relief Home, SF-sf
B. S., Huron, 1909.
[2]Woods, Marcy Smith Stockton Phil. sp., 22 Lasuen
Woodworth, Velma Elizabeth Palo Alto Eng. 102, 411 Waverley-p
Workman, Thomas Edgar Los Angeles Hist. 92, Beta Theta Pi
Wormser, Paul San Francisco E. E. 94, 65 Encina
Worth, Frederick Noyes San Francisco Econ. 71, Cardinal Club
Worthy, Arthur Edwin Huntington Bch. Law 103, 191 Encina
Worthy, Elmer Thomas Santa Ana Law gr., 23 Encina
A. B., Stanford, 1914.
Wright, Catherine Louise Pasadena Fr. 43, Kappa Kappa Gam-

Wright, Faye	Hanford	Hist. 49,	31 Roble
[1]Wright, Harold H.	Los Altos	M. E. 6,	Los Altos-I
Wright, Howard Walter	Pasadena	Law 82,	Beta Theta Pi
Wrightsman, Charles Bierer	Tulsa, Okla.	PreL. 15,	Delta Kappa Ep.
Wuesthoff, Herbert C.	Milwaukee, Wis.	PreL. 41,	Delta Tau Delta
Wyckoff, Harry Alphonso A. B., Stanford, 1907.	San Fran.	Med. gr.,	3806 Sac., SF-sf
Wylie, James Thomas	Auckland, N. Z.	Geol. sp. 23,	Sigma Al. Ep.
Wyman, Eleanor McKee A. B., Stanford, 1914.	Fillmore	Greek gr.,	Mariposa Club
[1]Wynne, Arthur William A. B., Stanford, 1915.	San Anselmo	Engl. 120,	129 Encina
Yager, John Edgar A. B., Stanford, 1915.	Oakland	M. E. gr.,	170 Encina
Yamada, Sozaburo	Sendai, Japan	Phyl.-Med.93,	JapaneseClub
[2]Yamate, Sasato	Hiroshimaken, Japan	Econ.,	31 Salvatierra
Yewell, Paul Rideout	Los Angeles	C. E. 42,	219 Ramona-p
Yoder, Olive Lillian	Los Angeles	Hist. 73,	Delta Delta Delta
[2]Yoshimura, Manji Gakushi, Tokyo, 1908.	Tokio, Japan	Chem. gr.,	232 Lytton-p
[1]Young, Alfred Turner	Ft. Jones	Phyl. 45,	Theta Delta Chi
Young, Celeste Langdon	Stockton	Hist.107,	KappaKappaGam.
Zacharias, George W.	Enid, Okla.	Geol. 29,	Delta Upsilon
Zeidler, Richard Ph. B., Wisconsin, 1906; M. L., California, 1912.	Campbell	Educ. gr.,	Campbell-c
Zimmerman, Howard K. A. B., Oregon, 1913.	Salem, Ore.	Law gr.,	59 Encina
Ziser, George J.	Los Angeles	Chem. 106,	185 Encina
Zven'gorodsky, Abraham	NewYork, N.Y.	Hist. 69,	1329 Waverley

SUMMER SESSION, 1914

Field Geology

Adcock, Robert Glover
Beebe, Henry Clare
Beecher, Charles Edward
Carlton, Dave Pierce
Chapin, Harold Addison
Clute, Walker Stillwell
Dunlap, Willard Everett
Gaby, Walter E.
Hayes, Francis William
Howard, Grenville Gates
Lee, Wah Seyle
Longmire, William Richard
Morgan, Harry Joseph
Pyle, Kenneth
Sickler, Jack Miller
Snell, Lester William

Marine Biological Laboratory

Angell, Thomas Bayard
Baker, William Elliott
Bordé, Harry Joseph
Boyd, Edwin Forrest
Clark, Paul Archibald
Davy, Donald Gordon
Dysart, Beth
Gardiner, Joyce Ada
Gilbert, Mildred Louise
Gilliland, Otho James
Hesser, Mary E.
Kreps, Helen Katharine
Levy, Harold Maurice
Lillie, Ralph Dougal
McConnel, Mary Emma
Nakayama, Shonosuke
Oppenheimer, Leon I.
Pratt, Helen Louise
Sanford, Alice
Weatherford, Harold L.
Winn, Vera Lutitia

SUMMARIES

Officers

Trustees	15	
Business Administration	24—	39
Academic Council—rank of		
Emeritus Professor	1	
Professor	61	
Associate Professor	27	
Assistant Professor	31—	120
Other Teaching and Administrative Officers—rank of		
Emeritus Professor	2	
Professor	8	
Associate Professor	4	
Assistant Professor	22	
Lecturer	4	
Teaching Instructor	49	
Non-Teaching Instructor	24—	113
Departmental Assistants:		
Teaching Assistants	127	
Administrative Assistants	96—	226
		498

Students

	1st Sem.	2d Sem.	For the Year
Graduates	270	287	327
Candidates for Degree of A. M. 125			
Candidates for Degree of Engineer 21			
Candidates for Degree of J. D. 51			
Candidates for Degree of M. D. 65			
Candidates for Degree of Ph. D. 29			
Other Graduate Students 36			
Undergraduates	1556	1498	1645
Special Students	72	61	82
Total	1898	1846	2054

Summer Registration	37	
Less names already counted	29—	8
Total for the year (including Summer Registration)		2062

By Major Subjects

	Graduate	Undergrad.	Special	Total
Greek	6	8	—	14
Latin	11	11	—	22
Germanic Languages	10	40	1	51
Romanic Languages	7	48	—	55
English	23	120	4	147
Philosophy	3	3	2	8
Psychology	—	8	—	8
Education	27	54	5	86
History	24	136	—	160
Economics	10	182	11	203
Law—Professional	51	120	11	182
—Pre-Legal	—	196	6	202
Graphic Art	3	33	—	36
Mathematics	2	26	—	28
Physics	7	4	—	11
Chemistry	19	89	4	112
Botany	3	29	—	32
Physiology and Histology	2	103	3	108
Anatomy	1	—	—	1
Zoology	7	20	—	27
Entomology	10	19	1	30
Geology and Mining	15	103	5	123
Civil Engineering	16	127	16	159
Mechanical Engineering	3	130	12	145
Electrical Engineering	2	23	1	26
Medicine	65	†28	—	93
Total				2054

†Also registered as Physiology Majors, 15.

By Residence—For the Year

California	1524	Tennessee	3
Oregon	72	Wyoming	3
Washington	50	Connecticut	2
Colorado	36	District of Columbia	2
Arizona	33	Maryland	2
Utah	30	New Jersey	2
Illinois	22	North Dakota	2
Iowa	22	South Carolina	2
Nevada	18	Alabama	1
Montana	17	Alaska	1
Idaho	14	Delaware	1
Hawaii	13	Michigan	1
Ohio	13	North Carolina	1
New York	12	Vermont	1
Minnesota	11	West Virginia	1
Missouri	11	Japan	18
Pennsylvania	10	Canada	9
Indiana	9	China	8
Kansas	9	Australia	4
Wisconsin	9	England	2
Oklahoma	7	France	1
Nebraska	6	Germany	1
Philippine Islands	6	Holland	1
New Mexico	5	India	1
South Dakota	5	New Zealand	1
Massachusetts	4	Russia	1
Texas	4	Scotland	1
Arkansas	3		
Georgia	3	Total	2054
Kentucky	3		

ALUMNI ASSOCIATION

[Organized June 15, 1892]

CONSTITUTION

(As amended, 1908-14)

IN order to promote the interests of the University, to secure unity among its graduates, and to foster an attachment to our *Alma Mater,* we do hereby constitute ourselves an association to be known as the Alumni Association of the Leland Stanford Junior University.

I. MEMBERSHIP

1. All persons who have received a degree from the Leland Stanford Junior University are members of this Association.

2. All members of the Faculty are honorary members of this Association.

II. OFFICERS

1. The officers of this Association shall be: (1) a President; (2) a Vice-President; (3) a Secretary-Treasurer; (4) an Executive Committee consisting of the Secretary-Treasurer and four other elected members, one of whom shall be designated as Chairman, but the President shall not be a member of the Committee; and (5) an Advisory Board, consisting of the President, one representative elected by the graduating class for the term of one year, and nine elected members who shall be graduates of five years' standing, and who shall be elected for three-year terms. . . . The Advisory Board shall elect its President and Secretary.

2. All other officers shall serve for one year or until their successors are elected.

III. DUTIES OF OFFICERS

1. It shall be the duty of the President to preside at all business meetings of the Association, to deliver the President's address on Alumni Day, and to perform such other duties as usually belong to his office.

2. It shall be the duty of the Vice-President to preside in the absence of the President and to perform the other duties belonging to his office.

3. It shall be the duty of the Secretary-Treasurer to keep accurate

minutes of the meetings of the Association and to act as Secretary of the Executive Committee, of which he shall be a member.

4. It shall also be the duty of the Secretary-Treasurer to have charge of the collection and disbursement of the funds of the Association.

5. The Secretary-Treasurer shall be allowed ten per cent of all dues or assessments collected, as compensation for his services.

6. It shall be the duty of the Executive Committee to arrange for the program to be presented on Alumni Day; or any programme for other public occasions; to regulate the finances of the Association; to perform such other duties as may be imposed upon it; and to attend to all business of the Association not otherwise provided for.

7. It shall be the duty of the Advisory Board, when deemed advisable, to consult alumni, undergraduates, faculty, and trustees, and to make recommendations regarding the welfare of the University and of the Alumni Association.

IV. COMMITTEES

1. The President shall be ex-officio a member of all Committees, except the Executive Committee.

2. At each annual business meeting the President shall appoint a committee of two persons to audit the Treasurer's accounts.

V. ELECTIONS

1. The February issue of the *Alumnus* shall give notice of the annual nomination and election of officers of this Association. Said notice shall contain the names of the incumbent officers and shall indicate the hold-over members of the Advisory Board, and shall contain in full the provisions of this Constitution relating to nominations and elections.

2. Nominations in writing, signed by at least twenty members, shall be required for any nomination. Nominations shall be forwarded to the Secretary-Treasurer between the first day of February and the first day of April of each year. On or before the fifteenth day of April of each year, the Secretary-Treasurer shall mail to every member of this Association, whose address he knows, an official ballot containing all the nominations, with the addresses of the nominees and the number of proposers of each, and said ballot shall be published in the May issue of the *Alumnus*.

3. Officers shall be elected at an annual election to be held at Stanford University on Alumni Day, between the hours of nine o'clock A.M., and twelve o'clock noon. The Executive Committee shall have charge of the election. The elector may cast a written ballot in person, or by mail addressed to the Secretary-Treasurer, marked "Ballot" and

disclosing the sender's name, and enclosing a ballot in a plain envelope. Ballots so received shall be opened and cast only during the hours of election. The respective candidates receiving the highest number of votes shall be declared elected. A tie vote shall be decided by lot.

4. No one whose annual dues are in arrears for the current year shall be entitled to vote or to hold office.

VI. DUES

The dues of the Association shall be $1.25 per year for each member thereof, which amount shall include a subscription to the *Alumnus*.

Provided, however, that all members who, prior to May 1908, have paid $5.00 shall be exempted from further dues.

VII. MEETINGS

Meetings of the Association may be called by the President or by petition of twenty members, said meetings to be held at Stanford University.

VIII. AMENDMENTS

Any proposition to alter or amend these Articles of Association must be proposed in writing, signed by twenty members, and submitted to the members by mail in printed form by the Secretary-Treasurer, and voted upon in the same manner as are nominations for officers, and adopted by a majority vote.

Officers of the Association, 1914-15

President—Gilbert Denison Boalt, '03.

Vice-President—Frederick Allen Cooley, '92.

Secretary-Treasurer—John Ezra McDowell, '00.

Executive Committee—W. Raleigh Hamilton, '04, Chairman; John Francis English, '01; Halbert William Chappel, '01; George Joseph Presley, '07; John Ezra McDowell, '00.

Advisory Board—Leland Whitman Cutler, '06, President; Fred Leslie Berry, '99; Lester Jesse Hinsdale, '95; John Thomas Nourse, '00; May Hurlburt Smith, '02; Thomas Marion Williams, '97; Jessie McGilvray Treat, '07; Otis Henry Castle, '14; John Ezra McDowell, '00; Daniel Wellman Burbank, '09, Secretary.

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